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ABSTRACT

This document contains seven papers from a study of the role of distance learning approaches in enhancing the contribution of nonformal education to socioeconomic development in Africa. "Introduction" (Richard Siaciwena) presents an overview of the research project and defines key terms related to nonformal education. "Ghana: The Use of Radio in the National Literacy and Functional Skills Project in the Volta and Northern Regions" (Kofi Siabi-Mensah) reports on a study examining the use of radio to support classroom teaching and learning in a literacy and functional skills project. "Kenya: The African Medical Research Foundation" (Anna P. Mwangi) discusses a study documenting the experience of a distance education project to provide continuing education to medical workers with little or no access to any other form of continuing education. "Tanzania: INADES- (African Institute for Economic and Social Development) Formation, Tanzania" (Amon Z. Mattee) reviews the history and activities of INADES-Formation, which provides provide training to farmers in rural communities. "Uganda: Distance Education Programmes of the Ministry of Health" (Juliana Bbuye) describes various nonformal health education activities in Uganda. "Zambia: Radio Farm Forum" (David Sibalwa) profiles a program providing technical assistance to farmers via radio. "Conclusion" (Richard Siaciwena) summarizes and synthesizes the findings of the individual case studies. (Some papers contain substantial bibliographies.) (MN)

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THE COMMONWEALTH *of* LEARNING

DFID Department for International Development

CASE STUDIES OF NON-FORMAL EDUCATION BY DISTANCE AND OPEN LEARNING

The Commonwealth of Learning
British Department for International Development, UK
2000

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CASE STUDIES OF NON-FORMAL EDUCATION BY DISTANCE AND OPEN LEARNING

Edited by
Richard Siaciwena

The Commonwealth of Learning
British Department for International Development, UK
2000

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FOREWORD

This research report will be useful to people involved or interested in the planning, development and implementation of non-formal education programmes because of the useful lessons it offers. The case studies in this report demonstrate the potential and importance of distance learning approaches in enhancing the contribution of non-formal education to socio-economic development in Africa.

For example, the Zambia Radio Farm Forum programme enables the Ministry of Agriculture, Food and Fisheries to reach larger numbers of peasant farmers than is possible through other extension services. The Radio Farm Forum programme helps over 21,000 small-scale farmers/peasants in rural areas, who listen and participate in the programme, to learn new knowledge and develop new skills. In the Ghanaian case study, the use of radio strengthened the coverage, by the literacy programme, of the functional and developmental themes.

Another important lesson is that distance learning approaches can be effective in changing people's attitudes/behaviour and in motivating rural communities to undertake action leading to the improvement of their socio-economic conditions. The Zambian and Ghanaian case studies again provide good examples.

In Zambia, there was evidence of changes resulting from the Radio Farm Forum programmes, which included changes in attitudes to slash and burn shifting cultivation and to certain crops which were previously seen as women's crops. In Ghana, radio changed, among many things, people's attitudes towards family planning and contributed to the establishment of income-generating ventures.

Richard Siaciwena

PREFACE

Using a range of media such as print, audio, video, broadcast radio, television and, more recently, the new devices of the ICT world, open and distance learning for both adult basic education and non-formal education has been increasing in most parts of the developing and developed world. Africa is no exception. However, reporting of such activities from Sub-Saharan Africa has been few and far between.

It is the hope of many that in the next 15 years we will witness the eradication of illiteracy world-wide. This ambitious target is unlikely to be met if those of us in the business of delivering education continue to rely principally on conventional means. Open and distance learning provide a solution to confront the challenge. Huge numbers of individuals need quickly to be provided with basic education and the useful knowledge necessary to lead productive, healthy and dignified lives. Open and distance learning can be both economical and fast. They are an answer waiting for the question.

The case studies contained in this report examine the application of open and distance learning strategies in Sub-Saharan Africa. As such they can be instructive to all those interested in increasing access to education in that region and elsewhere. The publication not only describes five cases, but also critically analyses them, identifying the key factors necessary to bring about success in using such innovative methods of delivery. The lessons learnt can help institutions, government departments and donor agencies to better use the range of learning technologies and techniques to improve access to education and training in effective and efficient ways.

The studies described in this publication could not have been undertaken but for a generous grant from the Department for International Development (DFID), UK. The Commonwealth of Learning (COL) is appreciative to colleagues in the Department for their encouragement and assistance in conducting the study. It is one of a number of studies that COL has undertaken in recent times with the support of DFID. COL also wishes to record its appreciation to Professor Richard Siaciwena and his collaborators for carrying out this work and bringing it to a successful conclusion.

G. Dhanarajan, President and CEO
The Commonwealth of Learning

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This publication is a result of a team effort spanning several years. It emanates from previous work jointly undertaken between the International Extension College and the Commonwealth of Learning (COL) in our efforts to understand the role of non-formal distance learning in development. Generous of spirit, time and enthusiasm, the Research Advisory Committee of Professor Tony Dodds, Dr. Barbara Spronk, Professor Abdul Khan and Dr. David Warr guided this project from inception to its final conclusion.

Each of the case studies presented here is the result of the commitment of individual authors and they are thanked sincerely for ensuring the value of the research results presented here. However, the warmest appreciation must be extended to the unfailing dedication and hard work of the Project Co-ordinator, Professor Richard Siaciwena. His continued good humour and professional demeanour endeared him to all involved, and without him this publication would not have been possible.

A special and personal thank you from all of the team must be extended to Ms May Li, an Administrative Assistant at COL, who with her efficiency and warm spirit contributed to the success of the project. Also, our deep and sincere appreciation to Anna Wilson-Nunn, who edited the text of the final report.

COL also thanks our colleagues at DFID, including Messrs. Terry Allsop, Jim Butler and Graham Larkbey, who provided not only financial support but also advice on the design and implementation of the project.

My sincere gratitude to all.

Patricia McWilliams, Project Manager
Education Specialist
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Chapter 1

INTRODUCTION

Richard Siaciwena

1 BACKGROUND

This research report has its origins in the collaborative project between the Commonwealth of Learning (COL) and the International Extension College (IEC), institutions with considerable experience in distance education.

COL, an international organisation established after the Commonwealth Heads of Government Meeting in 1987, has a mandate to create and widen opportunities for learning throughout the Commonwealth by exploiting the potential of distance education.

IEC is a registered charity that serves people primarily in the developing world by providing support in open and distance education techniques. IEC's purpose as a development organisation is to promote improvement in the quality of life through the expansion of educational opportunities, which it has been doing for 30 years.

The research project grew out of a study commissioned by COL and carried out by IEC in 1995. IEC's brief was 'to undertake an environmental scan of active non-formal education projects/activities which are employing distance education methodologies and to develop a framework for and identify possible case studies for further elaboration.' The final report of the COL/IEC study concluded that, while there was a considerable amount of non-formal education being carried out around the world using distance teaching methods, this was not generally well documented or analysed. There was, therefore, a need for much more detailed, analytical and systematically presented information to assist all those currently or potentially involved in non-formal education to learn from and build on past experience. The report pointed the way to a research project which would address this important gap in our knowledge and understanding.

It also proposed three stages of further research to fill the identified gaps of knowledge for the benefit of potential implementors of such programmes:

- make more detailed documentation of such projects, collected together or at least accessible under commonly agreed descriptors
- carry out a series of carefully and commonly planned case studies of existing projects to try to identify factors making for success, constraints and problems
- identify a series of new experimental projects which would, among other things, test the guidelines for action and good practice hopefully to be derived from the case studies.

An initial outline for this research project was prepared by IEC and presented briefly at an

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inter-agency meeting of World Bank and other funding agencies and non-formal education practitioners hosted in Washington DC by COL in April 1996. The proposal was also discussed at the COL-sponsored meeting of a special interest group on non-formal education and development communication in Accra, Ghana in April 1997.

It was finally accepted for funding by the Department for International Development (DFID) of the British Government and restricted to Africa.

2 CONTEXT OF THE STUDY

2.1 Educational development

As Sheffield and Diejomaoh (1972) stated, non-formal education cannot be seen in isolation from the broader context of African development. It is therefore important to locate non-formal education in the socio-economic context of African development in order to provide a framework for the analysis of the case studies presented in this report.

The advent of political independence in the 1960s provided an impetus for rapid and extensive development of education in many developing countries in general, and in Africa in particular. During the 1960s and 1970s, developing countries made remarkable efforts and progress in educational provision. The tremendous efforts made in this area aimed to affirm a basic human right and, at the same time, to promote socio-economic development (Hallak, 1990). Education was (and still is) widely considered critical for economic growth and poverty alleviation (see World Bank, 1995).

It is therefore understandable that education and the development of human resources were given high priority by governments and individuals during the period 1960-1980. During this period the total world enrolment of children at all levels of formal education nearly doubled, and most of the increase took place in the developing countries (Hallak, 1990).

This expansion was facilitated by considerable political changes, whose main feature was the achievement of political independence by many countries and the attendant responsibility for determining their own educational policies and choices. Hallak (1990: 7) noted in this context that:

> 'Governments gave high priority to education in allocating their resources, reflecting both a strong political will to generalise access to education, in the conviction that it would help foster national unity and satisfy social justice and respect for an essential human right, and at the same time an urgent need to develop their human resources in order to contribute to the economic and social growth of their societies. Parents and children shared the view that education would improve their living conditions, and pressed hard for access to schooling so much so that, when governments did not respond rapidly to their expectations, they opened their own schools'.

However, during the 1980s education in virtually all countries stagnated (Coombs, 1985; UNESCO, 1992). According to UNESCO (1992: xi) 'developing countries, deeply affected by economic recession and growing debt burdens, were generally unable to maintain the pace of educational expansion achieved during the 1960s and early 1970s'. Indeed, school enrolments actually declined in some countries in the face of rapid population growth.

The stagnation and deterioration in educational provision can be attributed to a number of factors, one of which is that in recent years the share of education has levelled off and, in some countries, has even declined. This is not so much because governments no longer view human resource development as important. Rather, according to Hallak (1990: 76):

> 'the claims of other pressing needs, such as agricultural and industrial development or national security, have grown more urgent. Of course, foreign debt servicing has become an immense consumer of the public revenues of a number of countries. Between 1972 and 1985, the cost of debt servicing rose from 1.5 per cent to 4.3 per cent of the GNP (of the developing countries together). Yet the share of education in the allocations of public resources remained reasonably high: between 10 per cent and 30 per cent of the national budgets'.

Since the 1980s, the balance of payments and budget deficits have severely affected the capacities of governments in most developing countries to finance education. Particularly in Africa, the problems affecting educational development are attributable, to a significant extent, to the physical and economic difficulty in meeting the level of educational demands, and narrowing the gap between population growth and resources. The German Foundation for International Development (DSE) (1992) noted in this regard that after two decades of constant and substantial quantitative growth in enrolments in educational institutions, Africa has still to cope with the symptoms of the educational crisis. It further noted that:

- since the 1980s enrolment figures have been falling because of lack of places in school and increasing cost to families of educating children
- due to economic depression in many African countries, government budgets have come under increasing pressure. Funds for running the schools have dried up considerably
- Ministries of Education have increased school fees and in many cases even reduced teachers' salaries (DSE, 1992: 4).

The unsustainable debt repayments, balance of payment problems and unhealthy government deficits that characterised African states in the 1980s eroded earlier achievements in the whole social sector. Governments could not maintain, at adequate levels of performance, the health and educational systems they had built up (Stiefel and Racelis, 1990).

The socio-economic policies that were aimed at dealing with the above problems had a negative impact on the social sector and on the urban and rural poor. There was an increase in both child malnutrition and child mortality, while health services declined along with school enrolment rates and the quality of education (Stiefel and Racelis, 1990).

As far back as the 1970s, when the formal educational systems of many countries were failing to accommodate the needs of growing populations, there was, particularly in Africa, an increasing emphasis on the development of rural areas. This was the period when there was concern not only about the inadequacies of the formal school system but also about the irrelevance of the school curriculum to the immediate needs of out-of-school children, youth and adults, especially in rural areas (Sheffield and Diejomaoh, 1972). This necessitated the adoption of fresh approaches to meeting the educational needs of rural populations. It thus gave rise to the development and consolidation of non-formal education.

2.2 The growth of non-formal education

The disillusionment with the formal school system as a catalyst for development reached high proportions towards the end of the 1980s, and gave prominence to non-formal education

(Hoppers, 1981). The formal school system 'came to be regarded as rigid, inadequate in its curriculum, and too expensive to permit full participation' (Hoppers, 1981: 1). The author further pointed out that the formal school system proved unsuitable to bring about the mobilisation of human resources in which development theorists had begun to put their hopes, principally because it was not designed to meet the needs of out-of-school youth and working adults.

The newly proclaimed strategies – which called for a stronger, more integrated and more community-based approach to rural development, and especially to meeting the basic needs of the poor – prompted the new interest in non-formal education that arose in the 1970s. Indeed, 'it was evident that if a real dent was to be made in these basic needs, millions of people of all ages and walks of life would have to learn many new things' (Coombs, 1985: 22).

Even if the formal education system were fully developed and more accessible, it could not be expected to serve the learning needs of more than a fraction of millions of people. It was therefore clear that a wide variety of non-formal education activities would also be required, especially to serve out-of-school youth and adults (Coombs, 1985).

The attraction of non-formal education both to economists and to educationists became irresistible, as it was 'seen to have all the features to which the formal system proved itself so resistant, like flexibility, responsiveness to changing local needs, diversity, versatility, in general its ability to meet the learning needs of so many different population groups in a form that suited these needs and the constraints of the local situation' (Hoppers, 1981: 1).

The 1990 World Conference on Education For All, held in Jomtien, Thailand, not only highlighted the importance of non-formal education but also provided global strategies for strengthening it. Article 5 of the *World Declaration on Education For All*, which calls for broadening the means and scope of basic education, states that 'the diversity, complexity and changing nature of basic learning needs of children, youth and adults necessitates broadening and constantly refining the scope of basic education'. (Inter-Agency Commission, WCEFA, 1990: 45).

It is clear from the above that the importance of non-formal education lies in its potential to provide basic education to the mass of children, youths and adults, in both rural and urban areas, who have either been by-passed by the formal school system or have left it too early to have acquired the communication, life and production skills necessary for satisfying and productive life.

3 NON-FORMAL EDUCATION: DEFINITIONS

In order to understand the educational context in which the case studies were selected and the research work carried out, it is important to provide an operational definition of non-formal education. Coombs (1968) observed that non-formal education is characterised by a variety of activities going by different names: *adult education; continuing education; on the job training; accelerated training; farmer or worker training; and extension services.*

Coombs et al (1973) established that there was a great diversity of non-formal education approaches in developing countries aimed at broadening and enriching the educational opportunities of rural young people. They showed four main categories of programmes in terms of purpose and subject matter. These were:

- agricultural
- artisan and craft vocational and pre-vocational preparation

- leadership and civic service
- general, multi-purpose and miscellaneous, including literacy training and school equivalency programmes.

According to Bates (1984), non-formal education is concerned with improving the personal, social and work life of individuals. It therefore aims to help individuals make practical changes in their daily life and personal development in terms of their own goals and wishes.

Sheffield and Diejomaoh (1972: xi) stated that non-formal educational programmes are supposed to serve several needs:

- as an alternative for those who lack the opportunity to acquire formal schooling
- as an extension of formal schooling for those who need additional training to get them into productive employment (or to become self-employed)
- as a means of upgrading the skills of those already employed.

From Hallak (1990: 238-9) the following characterisation of non-formal education can be developed.

- It is highly heterogeneous: it applies to many fields, many activities, many audiences; it is financed by various agents public and private, and offered in varied forms.
- It can be very loose, or so structured as to look very much like formal education, but it can get to the most educated as well as to the most depressed sectors of the population – rural women, isolated indigenous population, child workers, and so on – which the formal sector sometimes cannot reach.
- It deals with everything from literacy campaigns to computer technology.
- It is sometimes in a favourable position to compete with or outdistance formal education, but it can also be used to supplement the formal services.

Hallak (1990: 239-40) observed that in different contexts, and to different degrees, four broad areas of non-formal education are recognisable:

- **paraformal education** (evening classes, distance education, and so on), which refers to programmes that provide a substitute for formal schooling, that is, offer a 'second chance' to those who cannot attend regular schooling
- **popular education**, which is explicitly targeted to serve marginal groups. It is the least institutionalised component, including adult literacy, co-operative training, political mobilisation, and/or community development
- **education for personal improvement** (music, languages, sports and so on), which is provided by clubs, cultural institutions and associations, and in most cases paid for by the client
- **professional or vocational non-formal education and training**, which can be provided by firms, trade unions, private agencies and, of course, schools.

Dodds (1996) submitted that non-formal education is not a precise phrase, and it is possible to put several different interpretations on it. However, the above characterisation and categorisation of non-formal education require an adoption of an inclusive definition or phrase. Thus in this study the following definition was adopted.

> 'Under the heading of non-formal education we include all such learning programmes about life for adults (and even for young adults) which take place outside the school, college or university system. These programmes may take place in school

buildings on a part-time basis. They may or may not be taught by teachers. They may or may not include literacy and numeracy as well as basic knowledge and understanding of science, society and the environment. They may or may not cover subjects in skills taught in primary (or post-primary) schools. But they are organised; they do not happen by chance; students join with a specific goal and know that to succeed they must pursue that goal for a significant period of time. And, at the end of that time, if they are successful, they will have achieved a state of knowledge, skill and understanding they did not have before.' (Dodds, cited in Anzalone, 1995).

4 DISTANCE LEARNING IN NON-FORMAL EDUCATION

Distance learning in Africa has a long history. The University of South Africa began offering its correspondence courses in 1946. However, it was only in the 1960s that many African countries started offering distance learning courses, mainly in the form of correspondence education. This was a period when many African countries attained political independence and used distance education mainly for teacher upgrading and to extend formal education to out-of-school youth and adults. The philosophy of equal opportunity for all in mass education was one of the main considerations in the promotion of correspondence education in Africa. Thus a number of government non-profit making institutions were established, principally geared towards human resource development, especially in the upgrading of basic skills and the improvement of qualifications for a job (Kabwasa and Kaunda, 1973).

After the founding of the first correspondence college in Africa in 1962 – the Centre d'Enseignement Supérieur in Brazzaville – a number of similar institutions were established. Many countries in Africa increasingly realised the importance of correspondence education as a valuable contribution to the expansion of educational opportunities for all their citizens. Consequently, by 1972 there were 36 institutions providing education (in Africa) through correspondence teaching at various levels (Kabwasa and Kaunda, 1973).

In a worldwide study of non-formal education, of 73 projects using distance education, 31 examples were from Africa. African programmes had a higher proportion of a non-formal curriculum for adults and therefore had significantly less school equivalency curriculum (Dodds, 1996; 1999).

Significantly, some non-formal education projects started using correspondence and other distance teaching media such as broadcasts, printed lessons, film shows, study groups and extension workers. Among the earliest of such projects were INADES-Formation, established by Jesuits in 1962 in West Africa, and the Co-operative Education Centre in Tanzania.

The INADES-Formation project – whose original target audience comprised the subsistence farmers, the village women and the development leaders – extended to 20 African countries and its programmes are renowned for offering practical skills development for poor rural populations through distance education (Saint, 1999).

Another notable development in the area of non-formal education was the adoption of the Canadian and Indian model of Radio Farm (or Rural) Forums by many countries, the earliest of which were Ghana in 1964 and Zambia in 1966.

In general, the 1960s were characterised by experimental non-formal education projects using radio and simple printed materials for agricultural, health and community/civic education for adults, often for adults with little or no formal schooling (Dodds, 1999).

The application of distance learning strategies in non-formal education provided opportunities for increasing access to education for millions of out-of-school children, youths and adults in many African countries. Dodds (1996: 1) described a number of non-formal education media in Africa, among other geographical areas, and observed that 'both educational and extension professionals moreover have, in recent years, begun to recognise the power of the technological media to improve and extend their ability to communicate with their respective audiences'.

Distance education has been attractive because of its advantages, which include the following.

- Distance teaching makes it possible for a few teachers to reach large numbers of students.
- It does not require new schools to be built; it can rely mainly on the spare-time use of existing buildings and equipment.
- It makes it possible for students to learn while they continue to earn – they do not need to be removed from their productive activities while they study.
- Distance teaching is economical – once the teaching materials have been produced and the system is established, additional students can be enrolled with only marginal cost; and the more students there are, the lower the cost per student.

Media utilisation in out-of-school education has a long history, as stated by Dodds (1996: 1).

> 'Long before either phrase – distance education or non-formal education – became common, those involved in education and training for adults outside the structures and curricula of formal schools and colleges were looking for ways to use the media of communication – books and magazines and newspapers, radio and television – to expand their coverage and their outreach. Agricultural and health education or extension magazines, radio doctors, farm radio forums, go back to the early days of both extension and broadcasting. Development support communication grew out of this interest in the mass media by development workers. It was strengthened by the belief in and research findings about the role of mass media in national development by education and communication pioneers.'

Indeed, distance education uses both modern and conventional technologies, such as radio, video, printed materials, audio-cassettes and newspapers. But despite its wide use and increasing popularity, distance education is a phrase that is not precise and, like non-formal education, it is possible to put many different interpretations on it (Dodds, 1996). This is probably because of the multiplicity of purposes it serves, the variety of media used, and the different organisational and operational structures that characterise distance education institutions and programmes.

Perraton (1982) defined distance education as 'an educational process in which a significant proportion of the teaching is conducted by someone removed in place and time from the learner.'

5 RATIONALE FOR THE STUDY

A number of studies have been done on non-formal education either as the main area of study or a part of a given study. These include Sheffield and Diejomaoh (1972); Coombs et al (1973); Coombs and Ahmed (1974); World Bank (1977); Dodds and Mayo (1992); Fordham (1990); and Dodds (1996). However, distance education literature and practice still pay scant attention to non-formal education (Dodds, 1996).

From a review of these studies, a number of conclusions can be drawn.

- There is a growing interest in non-formal education in developing countries in general.
- There is an urgent need to expand non-formal education to meet the learning needs of out-of-school children, youth and adults in both urban and rural areas.
- Distance education is eminently suited to help meet the needs of adult learners.
- Distance learning has an enormously important role to play in increasing access to non-formal education.
- The success of non-formal distance education is conditioned by a variety of factors about which more information is required.

Against this perspective, it is noteworthy that this research project was rooted in and informed by the study on the use of distance learning in non-formal education whose report recommended further investigations in the area (Dodds, 1996).

It was decided by the Commonwealth of Learning and the International Extension College, at the time of disseminating the report, that funding would be sought to undertake a multi-year research project with the following three main objectives:

- to develop a more detailed and comprehensive documentation/ information base on world-wide non-formal education at a distance which would expand upon the COL/IEC study and further assess the extent of, and expectations for, non-formal distance education
- to describe and analyse in depth a representative group of non-formal distance education projects to determine best practices and common constraints; and present a series of case studies in non-formal education at a distance illustrating, in a variety of programming/content areas, the media and methodologies used
- to analyse and assess the factors which determine local impact, pedagogical effectiveness, cost, appropriateness and sustainability of non-formal education at a distance.

6 PURPOSE OF THE STUDY

The report by Dodds, which lamented the 'serious lack of information on how distance education is used in non-formal education' determined to a large extent the purpose of this study. In particular, Dodds (1996: 56) observed that there was 'very little systematically recorded information on student enrolment, completion, success and drop-out rates in such programmes and even less carefully researched evidence on what seems to work more or less effectively in particular circumstances for particular groups of people in particular subjects'.

The research project therefore aimed to provide comprehensive documentation and in-depth analysis of a range of non-formal education projects and programmes using distance teaching/learning methods. It was thus intended to provide a detailed record of different approaches used in non-formal education, and a set of conclusions about their effectiveness, costs, limitations and potential.

7 THE CASE STUDIES

The research project involved five case studies of existing non-formal education projects in Africa – Ghana, Kenya, Tanzania, Uganda and Zambia – carefully selected to represent a range of geographical backgrounds, different fields of activity and course content, and different media and methods. Most of the projects selected have been in existence for more than five years, with some of them as old as 35 years.

The Ghanaian Literacy and Functional Skills Project, which targets a potential audience of about 5.6 million illiterate adults by radio, began in 1996. Its main objective is to use radio to provide effective support to the National Functional Literacy Programme, whose objectives include the equipping of learners with knowledge, attitudes and skills to enable them to raise the quality of life in their areas.

INADES-Formation in Tanzania started in 1989 as an off-shoot of the Kenyan INADES programme, and became autonomous in 1992, with its headquarters in Dodoma. It targets four main groups: farmers (men and women, regardless of educational background); extension and development workers, or animateurs; social development workers; and development management staff from rural/community and agricultural enterprises. The Tanzanian programme offers a course in Management for Development, in addition to agricultural training. The latter is offered mainly through a correspondence course, produced for people with limited literacy, with highly illustrated and scientifically planned texts and vocabulary levels. Locally-organised face-to-face seminars reinforce the learning which takes place through the correspondence courses. Tutors occasionally undertake visits to groups of students.

The Zambian Radio Farm Forum programme started in 1966 and its main audience is the small-scale farmer in rural Zambia. The main objectives are to enable radio listening group members to apply the technical information they receive through the broadcasts in their own farming practices; to identify and describe some of the common crop and animal diseases and pests; and to advise other farmers on good farming practices.

The Health Manpower Development Centre in Uganda was modelled on a Kenyan programme. The African Medical Research Foundation (AMREF), a health worker and paramedic training programme, was first set up in Kenya in the 1960s. It targets a wide range of health workers, including fully-qualified doctors, midwives and community health workers, often with minimal training. It offers a wide range of courses, and uses correspondence courses and radio programmes. The target audience and methods of provision of the Ugandan programme are similar to the Kenyan programme.

8 METHODOLOGY

8.1 Research design

The main aim of the study was to provide a comprehensive and detailed analysis of a selected number of non-formal distance education projects/programmes in Africa. In accordance with the main purpose of the study, a case study approach was adopted because of its potential to generate rich subjective data that can be useful in the development of theory and empirically testable hypotheses (Borg and Gall, 1983). Case studies are uniquely suited to treat the complexity and evolutionary character of development programmes (Dodds and Mayo, 1992).

8.2 Research guidelines

Every non-formal education programme is rooted in a particular time and place, and contextual variables are always important to the success or failure of programmes. However, although it is helpful to keep in mind political, administrative, cultural or economic variables, it is important to set standard case study guidelines/questions (Fordham, 1989). Thus, despite the diversity among cases, every effort was made to achieve a high degree of comparability among the studies in terms of consistency of analytical approach and key questions addressed; types of evidence sought for answering these questions; and scientific objectivity and sound methodologies in handling and interpreting evidence and in presenting the final results.

Against this perspective, some general guidelines and research questions were agreed and adopted by the researchers. In addition, a set of criteria for measuring the success of the programmes was formulated and adopted by researchers.

9 IMPLEMENTATION OF THE RESEARCH PROJECT

For each project, an In-Country Researcher was selected from at least three possible candidates who submitted their *Curriculum Vitae* to the project Steering Committee.

A research framework was developed to guide In-Country Researchers, who worked under the direction of a Project Co-ordinator, who in turn was answerable to the Chairperson of the Steering Committee. The five-member Steering Committee provided professional guidance and support to the Project Co-ordinator and In-Country Researchers.

An In-Country Researchers' orientation workshop was held at the beginning of the project, and another workshop was held at which researchers presented their draft reports to their colleagues and members of the Steering Committee. Comments or observations from this workshop provided guidelines for the refining of the reports.

10 FORMAT OF THE REPORT

The structure of the report was determined by individual research reports which have been presented in alphabetical order: Ghana, Kenya, Tanzania, Uganda and Zambia. Each of these reports forms a chapter in addition to the introductory and concluding chapters.

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Chapter 2

GHANA: THE USE OF RADIO IN THE NATIONAL LITERACY AND FUNCTIONAL SKILLS PROJECT IN THE VOLTA AND NORTHERN REGIONS

Kofi Siabi-Mensah

1 INTRODUCTION

This case study examines the use of radio to support classroom teaching and learning in the Literacy and Functional Skills Project (LFSP), a project of the Non-Formal Education Division (NFED) of the Ministry of Education in Ghana.

1.1 Socio-economic background

The Republic of Ghana is one of the four member countries of the Commonwealth of Nations in West Africa. It occupies a land area of approximately 238,305 sq. km on the Gulf of Guinea and has an estimated population of 18.5 million people (1998).

Ghana achieved independence from Britain in 1957 and became a republic three years later. The country experienced relative political stability until 1966 when the first republic was overthrown by a military coup. From 1966 to 1982, several military interventions brought political instability. This had serious adverse effects on the economy, whose downward trend from the 1960s worsened in the 1970s.

From 1984 the government of Ghana, with support from donors/lenders including the International Monetary Fund (IMF) and the World Bank, instituted a series of measures to halt the economic decline, improve Ghana's infrastructure and raise the standard of living. These measures were known collectively as the Economic Recovery Programme (ERP) and the Structural Adjustment Programme (SAP). One of the measures, the Programme of Action to Mitigate the Social Cost of Adjustment (PAMSCAD), sought to cushion the harsh effects of other ERP/SAP measures on Ghana's most vulnerable people – especially poor and illiterate people and those in rural areas.

The creation of the NFED in 1986 and the launching of the National Functional Literacy Programme (NFLP) in 1991 represented attempts by the Ghanaian government to focus on the needs of poor and non-literate people. The political and economic measures taken by the government yielded good dividends. By the end of the 1980s political order had been restored, and multi-party democracy was introduced in 1992.

1.2 Development of functional literacy

The promotion of literacy in the Gold Coast began in the 18th century as part of the efforts of the Christian missionaries to evangelise the local communities, in particular those along the coast. The missionary societies, led by the Wesleyan Society, set up Sunday schools where literacy was taught to a selected few. By 1870 it was estimated that at least 1,000 adult learners were enrolled in the Sunday schools. Until the 1940s, the promotion of literacy was carried out mainly by the Christian groups and a few voluntary associations.

Hagan (1979) traced the involvement of the colonial administration in literacy efforts in the Gold Coast back to the 1940s, in particular to the issuing of a report by the Colonial Office Advisory Committee on Education (1943). The report urged colonial administrations to promote literacy in the colonies in order to make the people in the colonies 'aware of the need for social and economic improvement; and more importantly make them co-operate more readily with welfare and other agencies working on these lines'.

The Department of Community Development (DCD) was given responsibility for promoting literacy from the beginning of the 1940s, and launched a pilot community education project in the Volta Region in 1948. Literacy became the main activity. Demand for literacy by women in the region was so overwhelming that the DCD was compelled to convert the pilot project into a programme prematurely.

Undoubtedly, the most significant initiative in the promotion of literacy in the Gold Coast was the 'Plan for Mass Literacy and Mass Education' initiated by the government in 1951/52, following the pledge by Nkrumah and his Convention People's Party (CPP) to eliminate illiteracy within the shortest possible time. This initiative, which lasted from 1952 to 1964, covered six local languages. The DCD estimated that three million non-literates were made literate during the period. Hagan (1979), however, considered that this figure was over-exaggerated and that the literacy campaigns did not achieve their objective of making a large illiterate population literate.

No new initiatives were taken by the government from 1964 until the creation of NFED in 1986.

2 THE NATIONAL FUNCTIONAL LITERACY PROGRAMME (NFLP)

NFED was created by the Ghanaian government in 1986 to co-ordinate and direct all non-formal education activities. NFED began a functional literacy programme on a pilot basis in 1988-89 at Apam/Winneba in the Central Region and Tono/Vea in the present Upper East Region, with funding from the British Overseas Development Administration (ODA) – now the Department for International Development (DFID) – and other donors.

Following strong demands for literacy, the Head of State intervened and compelled NFED quickly to convert the pilot into a national programme in 1990. Thus the pilot could not be evaluated before the nationwide expansion took on board 15 local languages and a learner population of about one million. Literacy classes were established in all ten regions and 110 districts of the country.

2.1 Goals and objectives of the NFLP

The goals of the NFLP are to:

- equip learners with knowledge, attitudes and skills that will enable them to raise the quality of life in the community
- enable learners to improve their occupational skills through functional literacy
- broaden the reading interests of learners and establish an attitude of reading
- enable participants to meet their personal or social needs.

2.2 Organisation of the NFLP

The volunteer Facilitator is the key person in the teaching and learning of literacy and is selected by community or religious groups. The Facilitator undergoes an initial training course for 14 days, which focuses on how to promote discussions that can lead to social action and social development. During the NFLP cycle, facilitators undergo refresher courses.

The NFLP runs in cycles of approximately 21 months. It begins in October/November and ends in June/July. Each cycle has a batch of learners. On average, learners meet for six hours per week. Class meeting times are decided by learners and their Facilitators. Some classes meet early in the morning while others meet in the evening.

There are usually 25 learners in a class. Classes are assessed at the end of a cycle, and learners who complete the cycle are expected to participate in the end of cycle assessment exercise. Each learner completing the literacy cycle is awarded a certificate of participation. It is estimated that between 1992 and 1998 at least one million non-literate Ghanaians became functionally literate in their mother tongue.

The District Organiser is the chief operating officer of NFED in each district. Resources for the classes, including the Primer, Facilitator's Manual and other inputs, are channelled through the District Offices from the Headquarters. Classes are directly supervised by Zonal Supervisors, who are in turn supervised by District Office staff. Officers from the Regional Office and the National Office also undertake monitoring and supervision.

2.3 Programme content

To be certified functionally literate, each learner must study and master 28 functional themes in a Primer in one of 15 Ghanaian languages. The Primer is based on three broad areas – life skills, occupational skills and civic awareness. The following themes that focus on national development are common to all 15 language groups:

- Family Planning
- Teenage Pregnancy
- Nutrition
- Community Empowerment
- Safe Drinking Water
- Community Development
- Safe Motherhood and Child Care
- Immunisation
- AIDS
- Environmental Hygiene
- Income Generating Activities
- Traditional and Modern Farming
- Farm Extension Services
- Borrowing Money for Work
- Food-Preservation
- Animal Husbandry
- Soap Making
- Edible Oil Extraction
- Drug Abuse
- Tree Growing
- Child Labour
- Saving Energy
- Intestate Succession (PNDC Law 111, 1985)

Following demands by neo-literates to learn English, Ghana's official language , NFED began a pilot project in English for neo-literates in October 1996. This project has recently been evaluated, and it is expected that in the next phase of the literacy programme the pilot will gradually be expanded with a pilot radio component.

2.4 The Literacy and Functional Skills Project

The Literacy and Functional Skills Project (LFSP), launched in July 1992 and supported by the World Bank and other donors, emerged from the NFLP. The aim of the programme was to improve the quality of life of poor people in Ghana, in particular the rural poor and women, and to reduce the level of illiteracy among the then 5.6 million adult illiterates in the country. For although Ghana spends approximately 35 per cent of its annual budget on education, less than 40 per cent of its adult population is literate in English, the official language, or one or more of the 15 local languages used in the promotion of functional literacy.

3 THE USE OF RADIO IN NON-FORMAL EDUCATION

The use of radio in the non-formal education sector in Ghana is limited. The few non-formal education programmes in which radio has been used include:

- the Rural Radio Forum Programme of the Ghana Broadcasting Corporation (GBC)
- the Upper Region Agricultural Radio (URA-Radio)
- more recently, the radio component of the LFSP.

3.1 GBC's Rural Radio Forum

The Rural Radio Forum concept was imported from Canada in 1964. Aggor (1998) described the Rural Radio Forum as 'a listening-cum-discussion-cum-action group of rural dwellers devoted to improving themselves and their community through the application of immediately useful information/knowledge received through specially prepared radio programmes targeted at them'. GBC's Rural Radio Forum has been running for over 30 years and can be found in many parts of rural Ghana. It is perhaps the best example of the use of radio in non-formal education in Ghana.

3.2 URA-Radio

URA-Radio was started in 1968 as a component of the Upper Regional Development Programme (URADEP). The radio station, based at Bolgatanga, broadcast programmes to motivate communities in Northern Ghana to understand their role, and eventually participate in the development of their communities.

The World Bank, sponsors of the URADEP, envisaged that URA-Radio would be used to educate 'both people in the field (chiefs, farmers, extension workers, officers in charge of service centres, literacy instructors) and managers of the project which needed to be aware continuously of problems being encountered, and be able to respond to questions and suggestions put to them' (World Bank, 1976). The support of the World Bank lasted for ten years, after which URA-Radio became a GBC facility. The experiment of communities using a local FM station to raise and discuss issues affecting them has, however, continued.

3.3 Use of radio in the Literacy and Functional Skills Project

The LFSP pilot project, funded by the British ODA and located at the Winneba/Apam area in the Central Region and Tono/Vea in the Upper East Region, had a radio component. The purpose of the radio component was to support classroom teaching and discussion with more detailed information that could not be provided by the Facilitator.

The pilot project ran from 1989 to 1991, using GBC's FM stations and staff at Apam and Bolgatanga to broadcast its programmes in seven languages. Staff of GBC's Rural Radio Section produced the programmes for NFED.

It was assumed from the beginning of the NFLP that radio would form an integral part of the programme. The selection of Winneba/Apam and Tono/Vea areas for the pilot appears to have been influenced by the availability of FM transmission stations at Apam and Bolgatanga. At the start of the programme, radio was exclusively a public institution owned, managed and operated by GBC, so NFED had to use facilities and air time made available to it by GBC. Records indicate that the collaboration between GBC and NFED came to an end in 1991.

There was no radio support for the literacy programme between 1991 and 1996, partly because the administrative structures set up to manage the radio component appeared ineffective. There also appeared to be a difficulty with how to expand the radio programme to cover a wider area and to broadcast messages in 15 languages. At the time of the change from pilot to national programme, GBC simply could not make available to NFED the required air time, and did not have the trained staff to take on board literacy in the 15 national languages. Radio thus could not play a meaningful role in the promotion of literacy after 1991. However, it continued to create awareness about literacy: its news and other programmes focused on the need for literacy and the efforts that were being made to promote functional literacy throughout the country.

3.3.1 Use of Radio to Support Functional Literacy – pilot project

By 1995, it was evident that radio had not made the desired impact on the literacy programme. Conscious of the importance of radio in the dissemination of information and teaching/learning, NFED decided to undertake another pilot project. This pilot, the Use of Radio to Support Functional Literacy, began in December 1996 in the Volta and Northern Regions. For the pilot, NFED obtained World Bank support to refurbish GBC's redundant rediffusion stations. By December 1996, the two stations were refurbished and an understanding was reached between GBC and NFED to jointly own, manage and operate the stations. This gave NFED access to more air time.

NFED's interest in the radio component was to investigate not only how radio could provide support for the teaching and learning of literacy, but, more importantly, how to remedy the pitfalls in the previous project. The project sought to find out what structures had to be in place if radio was to play a more effective role in literacy work.

According to NFED's Deputy Director of Radio, Mr K. Ansre (Laflin et al, 1998), NFED expects its radio programmes to provide:

- information that will help change the lifestyle of learners
- complementary support for themes taught in the Primer
- a forum for learners to discuss issues with each other
- a medium through which learners can practise their literacy skills
- news and information for learners and the general public.

4 RATIONALE FOR THE STUDY

It is evident that the use of radio in functional literacy in Ghana is new and barely explored. The concern of this study, therefore, was to investigate how radio is being used in the LFSP and whether the goals of the project as stated by NFED are being realised.

Given the newness of the use of radio in functional literacy in Ghana, and the fact that few studies have been done in the area in Ghana, this study was concerned with:

- antecedents, assumptions and objectives of the Use of Radio to Support Functional Literacy project
- characteristics of project clientele
- organisation of the project
- radio support networks: collaboration between NFED and GBC; providers and learners

- outcomes of the radio programme on learners and communities
- identification of programme bottlenecks
- suggestions for effective use of radio in functional literacy and strategies for effective expansion of the programme.

The results of the study should provide useful lessons to those involved in the current project and others who may wish to use radio to support functional literacy.

4.1 Research guidelines/questions

The following questions formed the basis of the study.

- What are the origins, assumptions and objectives of the radio component?
- What are the characteristics of the beneficiaries?
- What are the main characteristics of the project? How different is its design from the earlier pilot project?
- How is the radio component organised? What is the nature of the administrative structure? What administrative and management structures are needed for effective implementation of the radio component of a local and national literacy programme? What is the nature of the relationship between NFED and GBC?
- How is radio actually used in the literacy programme? Which learning activities are most suitable for radio support? How is the complementarity between face-to-face teaching and radio support achieved?
- To what extent do the programme planners, implementors and learners see radio as an important component of teaching/learning of literacy?
- What factors account for the success or non-achievement of the project? What lessons has NFED learnt from the project?
- What has been the effect of radio on the actual learning in terms of (a) literacy (b) development of functional skills and (c) community education?
- What is the perception of people who own radios towards the use of radio in functional literacy?
- Is ownership of radio broadcasting facilities by NFED a better option? What are the cost implications? Is it sustainable?

5 LITERATURE REVIEW

Radio was introduced into the Gold Coast in 1935 to inform the population about the policies of the colonial government. Over the years, other functions were added and now radio's stated roles are to inform, educate and entertain. That radio provides education is accepted by all. As Keegan (1983) put it, the medium has the ability to 'redistribute teaching in space and time to promote self learning in a more flexible framework'.

It is recognised that radio has the advantage of transmitting information and knowledge to learners at large, but its use in non-formal education in Ghana, especially in the area of functional literacy, appears limited.

NFED's pilot project in the Winneba/Apam and Tono/Vea areas in 1989-91 was the first example of radio being used as a component of a literacy campaign. Even in this project, according to Mensah (1996), radio was not conceived as a direct delivery system; its role was to support various activities in the programme. NFED's policy document, 'Mass Literacy and Social Change Programme' (MASSLIP) (NFED, 1989), expected radio to perform the following functions:

- informing the public about the programme activities
- mobilising communities to support the programme

- supplementing the teaching of the Primer and the delivery of its messages
- providing support, training, information and the promotion of programmes aimed at facilitators and supervisors
- providing a wide range of programmes linked to post-literacy learning activities.

For these functions to be carried out effectively, certain conditions must be satisfied. According to the Report of the NFED's Rural Radio Training and Development Workshop (1991), the effectiveness of radio in functional literacy programmes depends on:

- careful planning and preparation – clearly identified audience, relevant content and structures, appropriate support and feedback system
- professional production – leading to attractive and enjoyable programmes
- effective transmissions – adequate coverage and signal strength, and access to appropriate transmission and repeat slots
- good reception – functioning radio receivers and reliable sources of power
- appropriate listening situations – which are conducive to attentive listening and which provide opportunities for active involvement, group discussion and collective activity.

In addition, there is also the important requirement of availability of air time for the broadcasts. Radio was a state monopoly in Ghana until 1987 when private FM radio stations were allowed to operate. Before then, GBC operated a national network of two short-wave stations, Radio 1 and Radio 2, and the FM stations at Apam and Bolgatanga. Radio 1 and Radio 2 broadcast 13 hours a day during week days and 17 hours daily during weekends and holidays. These included broadcasts in six local languages, usually on Radio 1. As observed by Obeng-Quaidoo et al (1992) 'the multiplicity of local languages made it quite impossible to have enough air time for all the very important adult education programmes including programmes on health, nutrition, family planning, environmental sanitation, agriculture, etc.'

In response to this, the World Bank agreed with the Ghanaian government that the only way sufficient air time could be made available for local language broadcasts was to have a national FM network. This appears to be the necessary thing to do under the circumstances. For, as Mensah (1996) pointed out, the allocation of air time to the 15 languages was one of the structural difficulties that the radio component of the Functional Literacy Programme faced. His conclusion was that the nature of planned support from GBC appeared beyond the capacity of GBC.

The conclusion of studies conducted so far into the 1989/91 pilot phase was that the necessary conditions that radio required to make an effective contribution to a functional literacy programme were not satisfied. Yates (1996), who studied the programme for her doctoral dissertation, noted that 'production of functional radio programmes lagged significantly behind the preparation of written learning materials ... there were also considerable difficulties in scheduling the radio programmes devoted to development to overlap with classes as classes usually met at different times ...'

But as Dodds (1996) made known, in the early stages of the NFLP distance learning methods, especially radio, were crucial in publicising the programme, creating favourable attitudes and encouraging potential learners to join the classes. He stressed that the methods were not seen as teaching/learning tools.

The literature on Ghana's NFLP remained positive on the potential of radio to make the expected breakthrough in the programme. The World Bank's staff appraisal report (1991) on the literacy skills project confirmed the support of the government of Ghana for the use of radio in the functional literacy effort to reinforce the messages being conveyed by the programme over the next several years. The main actors of the NFLP remain convinced that radio has an important role to play. Mensah (1996), like Dodds, lauded radio's ability to sell the programme, mobilise learners and sustain their interest. The expectation was that if the limitations and shortcomings identified during the pilot phase were rectified, radio could play a more effective role in future programmes.

6 METHODOLOGY OF THE STUDY

6.1 The study area

The project is being implemented in the Volta and Northern Regions, two of the ten administrative regions of Ghana.

The Volta Region lies along the eastern border of the country. There are 12 administrative districts in the region. Ho, the regional capital, is about 160 km from Accra. The region has many ethnic groups, the main ones being the Ewes, Akans and Guans. Ewe is the language spoken by the majority of citizens in the region, followed by Asante Twi. These two languages are used in the functional literacy activities in the region. They are also the languages used for broadcasting functional literacy and community programmes on Volta Star Radio. Programmes of Volta Star Radio are received clearly in ten out of the 12 districts. The listeners in the Krachi District in the far North and Ketu in the South experience difficulties in receiving the signals.

The Northern Region is in the Northern Savanna belt. It is the largest region in terms of land space, but one of the least populated. The region has many languages, with Dagbani, Gonja and Mampruli being the dominant ones. Only two, Dagbani and Gonja, are used for the Functional Literacy Programme and also for radio broadcasts.

There are 13 districts in the Northern Region. Of these, only West Dagomba, East Dagomba, Savelugu Nanton, Tolon Kumbungu and parts of West Gonja and parts of East Gonja receive Radio Savana clearly. Most others receive it faintly and during freak weather conditions.

6.2 Data collection

Information was collected from a variety of sources including the project designers , the implementors and the beneficiaries. A combination of methods was used to gather information, including:

- review of relevant literature
- interviews with key informants
- observations on the use of radio in various aspects of the project.

Interview guides, designed and validated in Ghana and reviewed and refined by the Project Co-ordinator, were used.

6.2.1 Field data

Field data from the Volta and Northern Regions was collected between the third week in February and the fourth week in March 1999. Mr Kwami Ansre and Ms Ruth Naa Korkoi Hughes, both Deputy Directors at NFED, helped identify sources and collect relevant materials.

6.3 Sampling procedure

Purposive sampling was used to select respondents. The following people were interviewed because of the relevant knowledge they had about the project:

- the former National Co-ordinator of NFED, Mr R.J. Mettle-Nunoo. Mr Mettle-Nunoo was associated with the National Functional Literacy Programme and NFED from the inception of the organisation in 1986 until 1994. Planning of the project was done during his tenure

- the Deputy Director, Radio, of NFED and other key officials of the organisation
- the NFED Regional Co-ordinators – Volta and Northern Regions
- the GBC Regional Directors – Volta Star Radio, Ho; and Radio Savana, Tamale
- the NFED Radio Programme Producers in the two regions – 15 at Ho and 13 in Tamale
- six Programme Officers, three from each language group, at each radio station.

On the advice of the Project Co-ordinator, information about the project was collected from one district only from each project area. Ho District in the Volta Region and Savelugu-Nanton in the Northern Region were purposively selected on the advice of NFED.

6.3.1 Ho District

For the Volta Region, NFED recommended Ho District because it was the only district that had been covered by the NFED Programme Officers. Ho is the capital of the Volta Region and also of the Ho District. Many of the key participants, including the regional staff of GBC and NFED and the District Officers of NFED, live and work in Ho. From the practical point of view, therefore, the selection of Ho made good sense.

The NFED District Organiser and the Facilitators and learners of two literacy classes were interviewed. Two classes were randomly selected – one at Klefe Dome and the other at the Church of Christ/Sunrise School, Ho. These represented the rural/urban dimensions of the literacy programme in the district.

Klefe Dome is about six kilometres from Ho. It has a population of around 500 people. The class had 25 learners – 17 women and eight men – and met on Mondays, Tuesdays and Wednesdays from 7-8.30 a.m. Individual interviews were held with four women and one man. The study team also talked to the Facilitator.

The Church of Christ/Sunrise School class had 25 members – 23 women and two men – and met on Mondays, Tuesdays, Wednesdays and Thursdays from 4-5 p.m. Four female learners and one male learner as well as the Facilitator were interviewed individually.

6.3.2 Savelugu-Nanton District (Northern Region)

In the Northern Region, Savelugu-Nanton District was purposively selected for study on the advice of NFED. Savelugu, the capital of Savelugu-Nanton District, is 20 km from Tamale. Most of the inhabitants speak Dagbani. The literacy cycle had not began fully in the Northern Region at the time of the interviews. However, Savelugu was one of the communities that had started the cycle. Individual interviews were held with the NFED District Organiser, three female learners and the Facilitator of each of two literacy classes, Kpanma and Niessimviela.

The learners interviewed belonged to Batch Five of the literacy class. Kpanma, a mixed class which met on Mondays, Tuesdays, Thursdays and Saturdays from 7-8.30 p.m. had 25 learners. Niesiemviele had 24 members, all women, and met on Mondays to Fridays from 7-8.30 p.m.

6.3.3 Radio Ada and Simili Radio

The attention of the In-Country Researcher was drawn to two community-based radio stations which provide some form of non-formal education in two parts of the country. These are Radio Ada in the Dangme East District of the Greater Accra Region and Simili Radio at Dalon in the Tolon-Kumbugu District of the Northern Region. The stations broadcast programmes which are specially tailored for groups in the catchment areas. Considering the main focus of the study, it was considered useful to carry out an assessment of the activities of the two stations.

6.4 Data analysis

Data collected was largely qualitative. Content and thematic analysis was therefore used to review the data generated. The themes that guided the analysis included:

- how the project was formulated and planned
- how it has developed
- what the outcomes/effects have been
- the main strengths and limitations.

To help measure the value of the project, programme implementors and participants were asked to give their perceptions about the project. In making judgements about the outcomes/effects, the analysis was guided by what NFED expected radio to accomplish on the programme, namely to provide:

- complementary support for themes taught in the Primer
- a forum for learners to discuss issues with each other
- a medium through which learners can practise their literacy skills
- news and information to learners and the general public.

7 PROJECT DESCRIPTION

7.1 Radio equipment and coverage

7.1.1 Volta Region

Resources for Volta Star Radio are located at two places in the region. The radio station and offices of the Regional Director of GBC are at Ho, while the transmitter is at Amedzofe, one of the highest points in the Volta Region, about 36 km from Ho. The radio station has an effective coverage of 200 km radius. At the time of installation, however, Amedzofe was not on the national electricity grid. Thus for well over two years, up to March 1999, the transmitters were powered by an old diesel generator which was expensive to run. Therefore, the station was forced to limit its daily transmission to 5.30-9.15 a.m. and 4-10 p.m.

The generator, however, broke down frequently not only because it was old, but largely because it to took on too much load. The old generator operated two TV transmitters for the national television network and one transmitter for Volta Star Radio. There was no stand-by generating facility and when the old generator broke down, Volta Star Radio was forced to go off air. Fortunately, this problem was solved in March 1999 when the Amedzofe transmission station was put on the national electricity grid, which should guarantee a more reliable and less expensive electricity supply to the station.

A minor technical problem is the micro-wave link between Ho and the station at Amedzofe. This link, although fairly reliable, also went off a few times, and during those times broadcast and transmission were affected.

7.1.2 Northern Region

All Radio Savana's equipment, including the transmitter, is located at the radio station in Tamale and powered by electricity from the national grid. The station operates for at least 15 hours a day. However, no stand-by generating equipment is available, so the station's programmes are disrupted if there is a general power outage in Tamale.

Unlike Volta Star, effective coverage of Radio Savana is only for a radius of 95 km. West Dagomba (which includes the Tamale Municipality), Tolon-Kumbugu and Savelugu-Nanton have full reception. Yendi, East Gonja, West Gonja, Gushiegu-Karaga and East Mamprusi have partial reception. The remaining five districts do not receive any signals from Radio Savana at all.

7.2 Radio Programme Producers

During the first pilot project (1989-91) literacy programmes on radio were designed and broadcast by GBC Rural Radio staff. As part of the preparation for the Use of the Radio to Support Functional Literacy project, 40 Zonal Supervisors of the LFSP, 20 from each of the project areas or ten for each of the four languages, were trained in the use of radio to promote literacy. The staff were designated NFED Radio Programme Producers and posted to the two radio stations at Ho and Tamale.

The initial 40 Radio Programme Producers who had worked with the Functional Literacy Programme for a minimum of three years were given a five-week training organised by NFED. Topics covered included:

- rural radio work
- organisation of magazine programmes
- presentation of programmes on radio
- how to translate news from English to Ghanaian languages
- programme production
- how to carry out interviews
- feature programmes
- discussion programmes.

Radio programme producers have the following tasks:

- producing materials in their respective languages to support the face-to-face teaching/learning of the Primer
- monitoring the radio programmes and providing feedback on the teaching/learning and other functional literacy related activities in the area
- promoting income-generating activities through radio
- promoting discussions of issues of interest and concern to listeners in the target group.

At the time of the study, 28 of the 40 Programme Producers were in post. Volta Star had 15 Programme Producers (seven Ewe speakers and eight Twi/Akan speakers); Radio Savana had 13 Programme Producers (seven Dagbani speakers and six Gonja speakers).

7.3 Radio ownership

Of the 16 learners interviewed, only two – one man and a woman – owned radio sets. The rest indicated that they had access to radio sets at home. These belonged to either husbands or other members of the household. Many of the learners were living in compound houses where some residents were likely to own radio sets. It was therefore possible for most listeners, if not all, to have access to radio.

7.4 Radio listening groups

In 1996 NFED acquired a quantity of pre-set radios that were distributed to all regions. It was argued that learners in the other regions listened to local language broadcasts on GBC Radio One and these were deemed to be of value to such learners. Since there were more than enough sets for the two regions, it was deemed appropriate to provide the other regions with radio sets. The two project areas in the Volta and Northern Region received 976 and 986 sets respectively.

It was thought that for literacy classes to become listening groups, each class should have a radio set for use in the class whenever the radio programmes were being broadcast. It was further planned that a radio set would stay with a class for a cycle and would be retrieved and re-allocated at the end of the cycle. So far only Batch Five classes, which began the cycle in December 1996, have had the radio sets.

Table 1: Gender of participants

	Ho District	Savelugu-Nanton District
Male	400	920
Female	1,453	880
Total	1,853	1,800

7.5 Participants

The project started with learners in Batch Five. Ho District had 76 classes in Batch Five and all of them had radio sets. Savelugu-Nanton District had 71 classes, of which 60 were supplied with radio sets.

7.6 Organisation of the project

The project was conceived as a collaborative exercise between NFED and GBC. The Literacy Skills Project Agreement (NFED, 1992), signed by the two organisations, specified in broad terms the activities to be undertaken by either NFED or GBC or the two together.

Following the signing of the agreement, part of the World Bank funding for NFED was used to renovate the GBC studios at Ho and Tamale which later became known as Volta Star Radio, Ho and Radio Savana, Tamale. GBC was required to make available 60 per cent of air time for functional literacy and educational broadcasts at the two stations.

The agreement also specified that NFED would provide teaching materials for radio broadcasts. The Head of the radio component at NFED was to liaise with the staff of GBC in the preparation of functional literacy materials for radio. The other provisions of the agreement clearly indicated that close collaboration was expected between the two organisations in the Volta and Northern Regions.

The agreement made provision for an NFED Regional Radio Programme Co-ordinator to liaise with the staff of GBC in the preparation of materials. The Radio Programme Producers went to their respective stations without the Co-ordinators but with the understanding that GBC staff would provide the necessary supervision and on-the-job training. The Co-ordinators, now designated Heads of NFED Programmes, were appointed in August 1997. The Heads of Programmes assumed duty in May/June.

Heads of Programmes were required to provide leadership and managerial services to Radio Programme Producers within the FM stations. They were also to liaise with the regional and district staff of NFED and supervise the production of programmes to support and complement activities on the Functional Literacy Programme.

In order to give each FM station a distinct regional character, and to ensure that the stations undertake activities which reflect the interests of the region, each of the stations has an Advisory Committee under the chairmanship of the Regional Minister or his representative. Any difficulties arising out of the implementation of the collaboration were expected to be resolved by the Advisory Committee.

Although training programmes for district staff, Supervisors and Facilitators covered the use of radio in the classroom situation, no administrative structures appeared to have been put in place at the district and class level to monitor its implementation. The Programme Producers were expected to visit classes, District and Regional Offices to generate material for their programmes.

For radio to provide effective support to the learning of literacy it was expected that:

- there would be radio lessons on the themes in the Primer arranged sequentially to follow the teaching of the themes at face-to-face meetings
- the radio programmes would be broadcast at pre-determined times known and convenient to Facilitators and learners
- the literacy programme would be organised as a participatory activity
- learners would be featured prominently in the radio programmes.

Radio Programme Officers were expected to visit classes regularly and use them as resources for programmes. To do this well, they required resources at the station and transport to commute between the station and the districts. Provision was therefore made for a cross-country vehicle and a minimum of two motor cycles for each station.

It was assumed by NFED that the Radio Programme Producers would work closely with the Regional Office of NFED and various District Offices. It was also expected that they would liaise with the NFED District Offices in the two regions in programme planning and delivery in order to complement face-to-face teaching.

7.7 Cost of the project

The cost of equipment and civil works at the two FM stations was borne by the World Bank as part of its support for the National Literacy and Functional Skills Project. All other costs were expected to be borne by the government of Ghana.

7.7.1 Capital costs

Table 2 gives a summary of the capital costs.

7.7.2 Recurrent expenditure

Figures for personnel and other recurrent costs could not be obtained. It was learnt that some of the Radio Programme Producers were seconded from, and still received their salaries from, other organisations. Although the radio stations were expected to generate resources for the running of programmes at the stations, NFED regularly provided the basic consumables required such as tapes (reel to reel), cassettes and stationery. NFED also provided furniture, field recording equipment and three major training exercises for each station.

Table 2: Capital costs

Item	Cost (US $)
Studio equipment	918,673.72
Transmitters	732,187.81
Civil works	116,739.30
Vehicles	40,511.67
Motor cycles	6,865.00
Microphone	33,000.00
Total	1,847,977.50

Table 3: Monthly running costs

Item	Cost (¢)
Salaries for 28 Programmes Officers and two Co-ordinators at an average of ¢200,000	6,000,000
Cost of electricity for running the transmitters:	
Volta Star	400,000
Radio Savana	100,000
Travel (programme staff)	350,000
Other materials and supplies	300,000
Total	7,150,000 ($3,062.5 at ¢2,400 to US $1)

Table 3 shows monthly running costs, taken from Laflin et al (1998): Evaluation of the Literacy and Functional Skills Radio Programme.

Discussions with NFED confirmed that funding arrangements for this project were not satisfactory. World Bank funding covered the cost of equipment for the radio stations, the civil work and transport only. The balance that was expected from the government came late, often creating bottlenecks in the implementation of the project.

8 OUTCOMES OF THE RADIO COMPONENT

The two radio stations were commissioned in November/December 1996 in the Volta and Northern Regions. A month later, the radio component of the LFSP was launched. This section assesses the outcomes of the project over the period December 1996 to December 1998.

8.1 Complementing face-to-face teaching

NFED expects its radio programmes to complement face-to-face teaching and learning by providing a more detailed study of themes discussed at class meetings.

The programmes were expected to be broadcast mainly at times when classes would be meeting. This expectation has not been fulfilled for a number of reasons.

- Apart from the supply of radio sets to Batch Five, no new supplies have been made to any of the subsequent classes. The radio sets are kept by Facilitators, some of whom consider them part of their incentive package. Those Facilitators who were not re-engaged to teach new classes kept the radio sets.
- NFED considers 7.30-9 p.m. as the prime time for literacy programmes. But class meeting hours vary, depending on what is convenient for a class and its Facilitator. One of the two classes studied at Ho, for example, met at 6.30 a.m., when radio programmes had not begun. This meant that this class could not meet as a group to listen to and discuss the contents of the programmes.
- For radio to provide effective support for face-to-face teaching, either the two must deal with the same theme at the same time, or the radio programme must follow closely what happens at literacy classes. Investigation at both Ho and Tamale revealed that the Radio Programme Producers organised their programmes on themes they deemed appropriate – not

necessarily on lessons being taught in the classes – and broadcast them at times they found convenient. There was therefore not much synchronisation between the face-to-face teaching and the radio component, and the content of the radio programmes did not complement the face-to-face teaching.

- One way of ensuring that radio and face-to-face teaching complement each other is for the Radio Programme Producers and Literacy Promoters at the district to meet at the beginning of a literacy cycle and regularly thereafter to plan programmes together. Although there was evidence that meetings took place between the Producers, Facilitators and District Office staff, it emerged that these meetings did not involve discussions concerning programme schedules and planning.

8.2 Classes as listening groups

NFED expected that the classes would develop into a forum for learners to discuss issues as a group. In effect, NFED was hoping that the classes would develop into listening groups similar to the Rural Farm Forum. This is yet to happen. Admittedly, learners listen to literacy programmes and share the information. However, discussions with learners at both Ho and Savelugu did not suggest that they listened as a group or held discussions after listening.

This was partly because Facilitators and learners did not generally have prior information about what was to be broadcast. The radio stations did not make their programme schedules available to the District Organisers. Volta Star Radio, for example, did not have a reliable programme schedule. On the whole, the NFED Radio Programme Producers did not appear to be systematic in their programming. They broadcast whatever programme they had without regard to what was being taught or when it was being taught. This, according to them, was because they could not determine the themes being covered by the classes at a particular time.

There was also the feeling among Facilitators that it was not imperative for them to organise learners to listen to radio programmes. This concern was discussed with Facilitators in Ho and Savelugu Districts, and the common response was that they were trained to teach literacy and were not conversant with leading discussions on radio programmes. The impression was that Facilitators in the project areas had not been made sufficiently aware of the role that radio should play. As a consequence, most Facilitators did not make much effort to develop the classes into listening groups.

8.3 Quantity and quality of literacy programmes

Radio Savana broadcast more literacy programmes than Volta Star Radio. This was partly because Radio Savana had more time for transmission than Volta Star. Also, as indicated, NFED Programme Staff in Tamale had better mobility. Relatively more time was made available to them and they filled it with programmes. At Ho, the Programme Producers accepted whatever programme time was offered them and even had difficulty in filling them with literacy programmes.

On the whole, NFED literacy programmes cover about one hour on Volta Star Radio and two hours on Savana Radio each day. According to the Regional Director of GBC, Ho, the station made times available for literacy programmes but these times were not utilised due to non-availability of materials. When situations like this occurred, GBC filled the slots with programmes which provided education to the general public.

Investigations revealed that the four language groups had programmes on almost all the 28 themes in the Primer. It came to light also that, because the Radio Programme Officers, especially those at Ho, did not go out often to make new programmes, there was a great deal of repetition of old programmes.

The study was unable to investigate fully the quality of the radio programmes and their presentation as there was not sufficient time to listen over a period. An examination of the topics, however, suggested that they dealt with the themes listed in the Primer and were therefore relevant to the learners. Learners interviewed found the topics discussed useful but felt that the duration of the programmes, 30 minutes in most cases, was too short.

8.4 Influencing the lifestyle of learners

There is no doubt that the two radio stations are giving information and news to learners and the listening public. To a large extent this is helping to change the lifestyle of learners and the general listening public. A study of the programme schedules of the stations revealed that the programmes deal with pertinent community issues and topical themes which have a bearing on the attitudes and behaviour of listeners in the programme area. The following are examples of how the radio component is influencing the lifestyle of learners.

- Female listeners at Ho mentioned *Nyornu Afedzikpolawo* (Women, the Home Makers) and *Afeame de?* (How is your Home?) as the programmes they found most useful on Volta Star Radio. The importance of the programmes to women appeared to be recognised by husbands, who called their wives to listen to the radio whenever the programmes were on air.
- Listeners of Volta Star Radio also mentioned that radio discussions on topics like the intestate succession law, bushfires, breast-feeding and teenage pregnancy provided greater understanding than that gained from the Primer.
- At Savelugu, female learners explained that discussions on family planning on Radio Savana have softened the attitude of men on that issue. Husbands no longer feel inhibited to discuss the issues raised on radio with their wives, but more importantly, some men now allow family planning in their marriages. This is an important change in a community which is predominantly Moslem and which traditionally does not encourage the use of modern family planning methods.
- The Regional Director of GBC, Tamale, explained that radio has created a large amount of awareness about the importance of literacy. It has also provided useful information on other important issues like health, agriculture and the need to modify customs and traditions.
- The Northern Region experienced ethnic conflicts between 1994 and 1996 and the Regional Director, GBC, gave credit to the NFLP, especially its radio component, for preaching peace. In his view the NFLP has helped to keep the peace among the various ethnic groups in the region.

8.5 Effect of radio on enrolment on the NFLP

The Regional Co-ordinator, Volta Region and his District Organiser for Ho, while conceding that radio had helped in creating awareness about functional literacy, said this had been achieved long before this project was launched in 1996. The two did not think the radio component by itself had done much in the Volta Region significantly to influence regularity of attendance or increase numbers of learners over the last three years.

The Regional Director of GBC, Tamale, argued that the radio component has been used effectively in promoting women's participation in the programme. He felt the discussions of women's income-generating activities on radio had been very effective and had drawn a lot of women to the programme.

The NFED District Organiser of Savelugu-Nanton was also of the view that the use of radio had led to an increase in the enrolment of women in the literacy programme in the district. He used enrolment figures of Batches 5, 6 and 7 to support his assertion. This is interesting since, unlike Southern Ghana where more women enrolled on the programme, in Northern Ghana, the reverse was the case.

8.6 Community support for the radio component

Information gathered showed evidence of community support for the programme, especially in the Northern Region. The Radio Programme Producers indicated that communities and opinion leaders in the region gave them support in their work, largely due to the recognition of the important role that the radio component has played in bringing about purposeful change in their communities. According to the Radio Programme Producers, community groups and individuals regularly gave them financial support to buy fuel to enable them to visit communities in the project area. There was also support in kind.

There is evidence of similar support in the Volta Region where classes occasionally invited Producers to cover their activities. The classes provided the Producers with the means to travel to and from their locations. However, the most common form of support came from church groups and organisations who were either celebrating an occasion or carrying out some form of dedication.

8.7 Learners' comments about the radio component

Comments from learners indicate that the radio programmes have different kinds of value for them.

- Grace Yawa Mordey, 75, Klefe Dome: The radio programmes *Nyornu Adedzikporlawo* and *Afeame de?* have messages for all listeners. They provide comfort for the weak and the old like me, advice for the young, especially the young girls, and encouragement for the rest. It is a pity the Radio people have not visited our class. We the students of Klefe wish to tell them our stories too.
- Grace Tsawodzi, 34, housewife, Church of Christ, Ho: The functional literacy programmes on radio have created awareness about the need to be able to read and write. Our literacy class owed its beginning to radio programmes. The Church of Christ approached NFED after listening to one such programme. The success stories on radio have motivated our class to start income-generating activities.
- Agbozo Yawo, 32, tailor, Church of Christ, Ho: I listen to Volta Star Radio at home and at work. My wife and I listen to *Nyornu Afedzikporlawo* together and discuss the

Table 4: Enrolment by gender and batches since the introduction of radio at Savelugu

	Male	Female
Batch 5	1,155	702
Batch 6	920	880
Batch 7	896	979

important lessons that are taught on the programme. The difficulty with radio lessons is that you cannot ask for explanation immediately, so you have to pay attention.

- Abiba Abdu-Rahamani, 38, trader, Nieesim Viella, Savelugu: Radio Savana talks about things around us. It teaches useful lessons such as how to plan your family, and how to keep your surroundings clean. Everybody who listens to the radio hears these messages. Our husbands also listen to the radio and hear discussions on family planning. That is why they now understand the importance of not having too many children. Now they follow the advice given by radio and discuss issues on family planning with us, something they did not do in the past.
- Salamatu Mahamadu, 35, farmer, Kpanma Literacy Class: No radio programme producer had visited our class and I am disappointed. We would also like to hear our voices on radio and talk about some of our needs, especially water, the main problem at Savelugu. Who knows, the authorities in Tamale might listen to such discussions and offer some help.

9 PROBLEMS WITH THE RADIO COMPONENT

Several weaknesses which hindered the effective implementation of the radio component were identified. Among them were:

- implementation of the agreement between NFED and GBC in the running of the radio stations at Ho and Tamale
- resources for work
- staffing
- monitoring.

9.1 Implementation of the agreement between NFED and GBC

Everything that has been said so far about the design of the project suggests that the success of the project hinged on collaboration between NFED and GBC. Sadly, the kind of relationship that developed between NFED and GBC, at Ho in particular and to a lesser extent at Tamale, has made implementation of the project difficult.

Co-operation from the Heads of GBC and NFED in the regions did not happen as envisaged, the worse scenario being at Ho. Conflict arose between the NFED Radio Programme Producers at Ho and Tamale and their GBC counterparts over ownership and control of the station and its resources. The antipathy between the two groups persisted up to the time of the field study in February/March 1999. The two sides, in separate interviews, felt the collaboration arrangement was a mistake and wished they had not entered into it.

While GBC conceded that NFED's money was used to refurbish the stations, GBC considered itself as the landlord and the organisation with the requisite experience and qualification to run a radio station. According to the NFED Radio Programme Producers, their GBC counterparts had very little regard for them. The support the two organisations should have given each other and the project was either held back or given reluctantly. This naturally had implications for the project.

The NFED Radio Programme Producers were expected to be given on-the-job training by their more experienced GBC counterparts, but this did not materialise. NFED was expected to provide each station with a cross-country vehicle as part of the package. The GBC Regional Director at Ho felt that the inability of NFED to supply the vehicles was deliberate. The situation at Radio Savana, Tamale, appeared a lot better: the two Regional Heads appeared generally to be on good terms, met regularly, took decisions together and generally complied with the agreement. It is therefore not surprising that the literacy programmes on Radio Savana are a lot more varied.

9.2 Resources for work

The common and justifiable complaint of the NFED radio programme staff was that they did not have resources for work. The Radio Programme Producers were expected to visit the districts regularly and mount programmes to support teaching and learning in literacy classes. However, none of the radio stations were given any cross-country vehicles. The NFED Regional Office took delivery of the motorcycles only in February 1999. Before this they had to depend on the station to provide money for transport or the Regional Co-ordinator's vehicle.

Tamale was in a slightly different position with regard to transport. The Radio Programme Producers took to the station the motorcycles they had as Supervisors. At the time of our visit to the Tamale programme area in March 1999, Tamale had ten serviceable motorcycles. But the Tamale Programme Producers were also limited in the sense that they depended on the income from the station for the fuelling and servicing of the motorcycles and for their per diem.

For some inexplicable reason, NFED had not made any budgetary provision for the recurrent expenditure for the radio programme staff and functional literacy related activities at the radio stations. It would seem that the decision not to budget for the radio programme was based on the expectation that the stations would generate money to run both NFED and GBC activities. One is not sure whether this is a good arrangement since NFED and GBC do not necessarily have the same motivation as far as programmes are concerned. NFED, having invested approximately 1.9 million dollars in refurbishing the stations, felt that GBC would reciprocate by providing operational funds not only from revenue generated by the station but also from the imprest provided from GBC headquarters.

9.3 Staffing at the radio stations

Related to the two problems outlined above is the issue of over-manning and low output of the Radio Programme Producers at Ho and Tamale. NFED trained 40 Radio Programme Officers, ten for each language group. By March 1999, there were 15 at Ho and 13 in Tamale. Ideally, the Radio Programme Producers should have made regular journeys between the radio stations and the districts. This did not happen in the case of Ho for reasons already stated. The Radio Officers' programme schedule revealed that the station carried not more than five hours of functional literacy programmes, including repeats, in a week. With the exception of Producers of *Afeame de?* and *Nyornu Afedzikpolawo*, the rest of the Radio Programme Producers produced on average not more than 30 minutes of programmes in a week.

Tamale had 13 Radio Programme Producers. Similar to the situation at Ho, the Dagbani programme staff spent more time doing the regular radio programmes for GBC than for NFED. The Gonja group, following a disagreement with GBC, decided not to carry out any assignments for GBC and instead tried to fill their slot with their own programmes.

Although the situations differed slightly from radio station to another, and from one language group to another, it is evident that the stations are over-manned and, with the exception of a few, work output of the majority of staff was low. The NFED Deputy Director of Radio indicated that the issue of staff strength at the radio stations and their work output was under review.

It also came to light that the Radio Programme Producers were not working together for programme planning with the other NFED staff at the regional capitals. Ho and Tamale have the Regional and District Offices of NFED and one would expect Radio Programme Officers to consult regularly with the District and Regional Offices for programme planning. There was also the feeling that the NFED District Officers did not consider the radio component as part of their responsibility.

9.4 Monitoring of the radio component

9.4.1 Monitoring of class activities

The radio project was not conceived as an independent activity. Therefore no separate machinery was set up to monitor the radio programme at class level. It was expected that NFED Supervisors, district and regional staff would supervise the use of radio by the various classes. These categories of staff, who invariably visited the classes at different times, were expected to inform the Radio Programme Producers of their observations. Both District Organisers at Savelugu and Ho indicated that they informed the Radio Programme Producers about observations made by listeners as and when such observations came to their notice. From the discussions with both the district staff and Radio Programme Producers, it would seem that monitoring of the radio component was not very systematic. This can be attributed partly to the dependence on GBC to provide supervision.

Radio Programme Producers were expected to visit classes regularly and to report on their activities. However, most of them, especially in the Volta Region, hardly visited classes, including those in and around the regional capitals. The four classes that the research team visited had not seen a Radio Programme Producer for some time. Those Producers who did not visit classes had no way of knowing at first hand how their programmes were being received by the learners. They would have to depend on letters from the classes.

9.4.2 Monitoring of radio programme staff

Monitoring of the radio programme staff was planned to take place at three different levels:

- by GBC
- by the NFED Regional Co-ordinator
- from NFED Headquarters.

The GBC Regional Directors had administrative responsibility for running the radio stations and as such were expected to oversee the operations of the NFED Radio Programme Producers in the first instance. Monitoring of activities at that level was not systematically done because of the antipathy between NFED and GBC over ownership and management of the stations.

For similar reasons, and also because they felt it was GBC's responsibility, NFED Regional Co-ordinators did not monitor effectively the operations of the Radio Programme Producers.

As a result, monitoring the activities of the NFED Radio Programme Producers fell to the Deputy Director, Radio, an assignment he performed to the best of his ability, shuttling between Accra–Ho and Accra–Tamale. But even with the best intentions and efforts on his part, the arrangement was not the best. The distances were too great and the responsibilities too much for a Deputy Director with a very heavy schedule at Headquarters.

The outcome of the unsatisfactory monitoring of the project was that the implementors and managers did not regularly receive relevant information on project activities.

10 THE FUTURE

10.1 Synchronisation of programmes

The Regional Co-ordinators, District Organisers and the Radio Programme Officers appreciate the need for synchronisation between the face-to-face teaching and the radio component.

Synchronisation, they believe, can be achieved in the following ways.

- Radio Programme Producers provide programme schedules to the District Officers to guide classes in determining their meeting times.
- District Officers inform Radio Programme Officers of lessons being taught.
- District Organisers and Radio Programme Officers meet regularly to plan programmes, especially at the beginning of the cycle and during the natural breaks which occur during farming periods and festive periods.
- The Radio Programme Officers become more actively involved in the field activities. This is necessary as under the present arrangement they are not seen by the Field Officers as part of the programme.

10.2 Deployment of Radio Programme Producers in the districts

The general feeling is that there are too many Radio Programme Producers at the radio stations doing too little work for NFED.
It is not known what decision NFED will take regarding the number of staff required to produce functional literacy programmes for radio. In anticipation that there would be greater involvement of radio at the district and class levels of the programme, deploying some of the Radio Programme Producers elsewhere is worth considering.

The evaluation report of the Literacy and Functional Skills Radio Programme (Laflin et al, 1998) indicates that three Radio Programme Producers for each language group would be adequate to carry out the activities currently being performed by at least six people at the radio stations. In that case, the rest of the Radio Programme Producers should be deployed in the districts to produce programmes and visit the stations from time to time. If this happens, the Radio Programme Producers will be in regular contact with field activities and vice versa.

10.3 Radio sets

At the time of the study, only one batch of classes had been supplied with radio sets. For the radio component to be effective, radios should be made available to all classes within the project area.

10.4 Need to budget for the stations

The radio programme staff depended on income from the radio stations for travel to cover functional literacy activities. Thus they depended on the good will of the Regional Directors of GBC for financial resources for the performance of their duties. In a situation where a GBC Regional Director is not concerned whether functional literacy programmes are made and broadcast or not, money may not be made available. It is thus necessary for NFED to make budgetary provision for its staff and activities at the radio station.

10.5 Institutional arrangements

The project has confirmed NFED's belief that radio can provide effective support for the promotion of functional literacy. The concern at this stage is the type of infrastructure and institutional arrangements that are likely to guarantee better results. The joint ownership arrangement has not worked out to the satisfaction of NFED, and there is the feeling within NFED that next time it should go it alone.

NFED's Deputy Director, Radio has not ruled out the likelihood of the organisation installing radio facilities at selected parts of the country. But the thinking within NFED is that, in order to cover the country and the 15 language groups, NFED would still have to enter into collaboration with independent radio stations that have been set up since 1996. The concern is that care should be taken with whatever arrangement is entered into so that the organisation's interests are better protected next time round. This is good thinking in the sense that it is not possible or necessary for NFED to own sufficient radio facilities for the NFLP. The Deputy Director, Radio has indicated that so far the overtures from the private radio stations have been positive.

As a first step, NFED should encourage the radio stations to focus on community problems and needs. It is believed that NFED has the capacity to help the private radio stations to gain a deeper understanding of the relationship between a literate community and national development, to the extent that these radio stations will show an interest in functional literacy programmes. Already one radio station, Radio Ada, is doing so.

10.6 Sustainability of the radio project

Sustainability of the radio project is tied to the fate of the NFLP. The government of Ghana has demonstrated support for the programme in many ways, including seeking donor support from bilateral and multinational sources. It is expected that any government that is conscious of the relationship between literacy and national development will continue to extend support to the programme. It is, however, doubtful if the government can maintain support at the current level in the face of ever increasing demands from other sectors of society. To date, the bulk of resources for the NFLP has come from external donor sources. In 1998, for example, when funding for the LFSP ceased, the Ghanaian government's funding could not fill the gap. Activities at NFED suffered as a consequence.

Thus, while the government will not abandon functional literacy altogether, its future does not look completely certain, given that donor funding will not last forever. Conscious of the situation, NFED is undertaking a major review of the structure and organisation of functional literacy in Ghana.

One idea which is being canvassed is to transfer some aspects of the programme to the District Assemblies. Planning, implementation, monitoring and evaluation are other activities that NFED would like to decentralise to the District Assembly level. If this is done, the District Assemblies will budget for and look for funding for the activities in their districts. The District Assemblies can enter into arrangements with local FM Stations for air time for literacy programmes. Localisation can also deal with the problem of lack of integration of radio and face-to-face teaching. There is a strong belief that more FM radio stations will be established, and that within the next five years there will be local radio stations in many districts.

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Chapter 3

KENYA: THE AFRICAN MEDICAL RESEARCH FOUNDATION DISTANCE EDUCATION PROJECT

Anna P Mwangi

1 INTRODUCTION

This study documents the experience of the Distance Education Project of the African Medical Research Foundation (AMREF), Kenya Country Office.

1.1 Socio-economic context

The Republic of Kenya is situated in East Africa. It occupies an area of 582,646 square kilometres and has a population of around 28 million people.

In most African countries, human resource development is seen not as the desired outcome of economic development strategies, but as the very means of development. Non-formal continuing education is an essential part of human resource development. However, the introduction of Structural Adjustment Programmes (SAPs) in the 1980s, in an effort to reverse sub-Saharan Africa's economic decline, has had some disastrous effects. SAPs traditionally accord low priority to sectors such as health and education. This inevitably weakens the capacity of people to engage in socio-economic recovery and development (Barratt Brown, 1995).

A typical SAP of the World Bank includes measures to minimise government expenditure and economic intervention by reducing public ownership, subsidies and regulation. This has inevitably led to a decline in the extent and quality of education and healthcare (UNCTAD, 1993-4 Report). Institutions have decayed, infant mortality rates are raised and nutritional levels have worsened as a result of drastic reductions in social expenditure. Literacy rates, life expectancy and employment in the formal

Table 1: Selected socio-economic and demographic indicators for Kenya

Infant mortality rate <5yrs	90%
Children <5yrs with nutritional deficiencies	71%
Adult literacy rate	male 72%; female 44%
Population with income below $1 per day	50%
Life expectancy at birth	54 years
Per cent of population urbanised	30%

(Based on data from **State of the world's children report 1998**) (UNICEF, 1998) economy have remained stagnant or even declined (Sandbrook, 1994).

In this climate of economic hardship, distance education provides a cost-effective alternative to conventional education and training because small numbers of trained teachers can often reach thousands of people.

1.2 About AMREF

AMREF is an independent, non-profit organisation founded in 1957. It is one of the few international non-governmental organisations (NGOs) based in Africa, with headquarters in Nairobi, Kenya.

The organisation maintains country offices in Kenya, Tanzania, Uganda and South Africa and field offices in Rwanda and Somalia. Although AMREF has no plans to expand into more parts of Africa, it continues to share its expertise with countries outside its traditional working area so that governments, donors and NGOs can benefit from its experience.

The activities of AMREF are structured into five programme areas, which reflect the organisation's main priorities. These are:

- Sexual and Reproductive Health
- Child and Adolescent Health and Development
- Environmental Health
- Health Policies and Systems Reform
- Clinical Services and Emergency Response.

1.3 AMREF's Distance Education Project

The Distance Education Project of AMREF, previously known as the Distance Teaching Unit, is one of the projects of the Kenya Country Office of AMREF. A Project Manager who is directly responsible to the Kenya Country Office Director heads it. There is an Assistant Project Manager (an Education Officer), an Audio Studio Technician, a Clerk and a Secretary. Six part-time Tutors who mark the assignments and write radio programmes and printed materials for the correspondence course assist this core team. For this purpose, these part-time Tutors have been trained at writers' workshops. Previously, there had also been a Radio Programme Producer and an Administrator/Editor.

The Distance Education Project focuses on workers who have little or no access to any other form of continuing education. (Brye et al, 1990). As a result, their medical skills and capabilities often deteriorate, which inevitably leads to poor service delivery.

1.3.1 History of the project

AMREF started a Continuing Education Programme in 1979. Three districts were identified for the programme. After a period of three years, an evaluation of the entire programme was carried out, and it was found that the programme had reached only 46 per cent of health workers in those three districts.

AMREF, therefore, decided to change its strategy. A Distance Education Pilot Project was set up in an attempt to find out whether:

- health workers would be able to learn through distance education (DE) methods
- health workers would personally enrol in DE courses
- the Ministry of Health would accept DE as a strategy for providing continuing education.

By the end of the first year, 200 individuals had already applied for the course. The first course to be offered was Communicable Diseases, which was seen to be most relevant to the majority of health workers at the time.

2 LITERATURE REVIEW

The Distance Education Project of AMREF has been evaluated four times: Rotem et al (1989); Mburu (1989); Brye et al (1990); and Nyonyintono and Mungai (1993).

Rotem recommended that AMREF should concentrate on the technical development and provision of distance education. The report also notes that the rapid expansion of the population leads to an increase in the demand for healthcare services. This inevitably strains the resources of the public healthcare sector and leads to serious problems in the management and delivery of services, resulting in inefficient maintenance of facilities and essential resources such as vehicles and medical centres. Rotem (1989) also recommended renovation of training centres and provision of adequate facilities for demonstrations and clinical teaching for various sections of health workers.

Mburu (1989) recommended that:

- a core of regular course writers should be identified and assisted in each country
- courses should be restricted to the suitable cadre, which may mean more courses for different cadres – that is, learners should move from lower to higher levels of learning
- older, less educated lower cadres should be encouraged to enrol in correspondence courses
- the courses should be advertised more widely in the districts with less than average enrolment as such districts are probably the more disadvantaged
- a systematically organised learning needs assessment should be used to determine the type and level of courses
- the next phase of the programme should include enhanced advocacy with the government in order to bring recognition for distance teaching as a method of career development.

The evaluation report by Brye et al (1990) was specifically concerned with two programmes supported by a four-year USAID matching grant, namely Health Planning and Management and Distance Teaching. The recommendations made concerning the administration and course management of the then Distance Teaching Unit were to:

- expand the promotion and publicity of distance learning through student advocacy, the designation of personnel at key health institutions to inform potential participants of course offerings, radio programmes, and other resources
- continue to monitor the production and distribution of course materials, manuals and textbooks to assure availability to students on a timely basis
- continue to explore formal recognition for distance teaching and related continuing education activities through affiliations with national and regional educational and training institutions
- continue to assess target audiences for distance teaching courses to validate the appropriateness of content and level of difficulty for the wide range of health workers currently enrolled, and develop new distance teaching courses to meet identified needs
- improve physical facilities for distance teaching centres to organise, store, and secure distance learning materials and equipment.

The report also made recommendations in the areas of distance teaching methods used, training and supervision of tutors, expansion of the distance teaching programme and monitoring and evaluation of the programme.

Nyonyintono and Mungai (1993) evaluate the impact of the then Distance Teaching Unit (DTU) and recommend that:

- the DTU should explore ways of decentralising some of its activities so as to minimise some of the delays
- innovative mailing networks should be explored and used where the regular postal services are too slow
- ways should be found to motivate female and older health workers to participate in distance education as they form a large number of the target group
- impact evaluation at the level of practitioner performance and beneficiaries of health care should be carried out to complete the total evaluation of the impact of the DE programme
- the DTU should study the suggestions for improvement that have been made by the respondents to the study and follow-up all of them
- the DTU should take the initiative in finding out what is holding back recognition of the DE certificate and find ways to overcome whatever problems exist
- further funding should be sought to expand the programme so as to increase coverage, develop more targeted courses, organise more face-to-face practical sessions, develop and produce audio cassettes to supplement the radio programmes and produce audio cassettes for specific skills training
- investments should be made in a better computer system and personnel for student records, and this information should be updated regularly.

Nyonyintono and Mungai (1993) also note that:

- distance education enables uninterrupted service delivery as the student learns and has positive outcomes
- knowledge, skills and attitudes towards healthcare have improved as a result of DE courses
- DE courses also improve the attitude towards work, colleagues, patients and health of communities where learners work.

Concerning the radio programmes, the researchers observe that radio reaches a wide audience and is therefore a practical alternative for rural areas. Over 70 per cent of health workers in one sample were shown to listen to the radio, but not on a regular basis (Nyonyintono and Mungai, 1993). However, it is necessary to establish methods of encouraging the target audience to listen more frequently.

3 METHODOLOGY

The study used conventional methods of data collection, including quantitative and qualitative techniques.

Staff and learners of the DEP included:

- 3,267 active learners
- 1,249 dormant learners
- supervisors at the learners' places of work
- staff managers of the programme
- policy makers
- six part-time tutors.

From these, a random sample of 418 active and 108 dormant learners was selected by computer. 86 supervisors were randomly selected, based on addresses received from hospitals and health centres where AMREF learners worked. All staff managers, policy members and tutors were included in the sample. Table 2 shows the data collection techniques used for each category.

Table 2: Data collection techniques used per category of respondents

	Active learners	Dormant learners	Super-visors	Policy makers	Staff managers	Part-time tutors
Questionnaire administered by researcher	28	8	0	0	0	0
Questionnaire administered by the CEO	36	0	0	0	0	0
Questionnaire mailed by researcher	214	100	86	0	0	0
Questionnaire mailed by AMREF with assignments	140	0	0	0	0	0
Interview	28	8	0	2	3	4
Observation	28	8	0	0	0	0

Mailed questionnaires were sent to active and dormant learners from all parts of the country. Learner observation and interviews were done in three divisions of Nakuru District, Rift Valley Province. Other interviews were conducted in Nairobi.

Data was also collected from secondary sources, including project reports, evaluation studies, proposals to funding agencies and statistical data from project documentation.

4 PROJECT DESCRIPTION

4.1 Goals and objectives

The goal of the AMREF Distance Education Project is to improve the health of people in the rural areas of Eastern Africa, through establishing and extending sustainable distance education services throughout the region.

The objectives of this project are to:

- initiate, develop and offer correspondence courses to update the knowledge and skills of health workers on the job
- provide continuing medical and health education to all cadres of health workers through a variety of media
- establish distance education support systems
- demonstrate the acceptability and cost effectiveness of distance education as a method of continuing medical education. (AMREF Training Department, 1983).

4.2 Programmes of the Distance Education Project

The AMREF Distance Education Project runs two programmes. The first one is a distance education course offered through printed materials. The second one consists of two radio series: one directed at the general public and the second one for health workers.

When the DE programme began in 1980, the Distance Teaching Unit offered six courses that were developed at writers' workshops. Currently, AMREF runs nine correspondence courses and a weekly radio programme. One more correspondence course (on immunisation) has recently been started. These correspondence courses and radio programmes are summarised in Table 3.

Table 3: Correspondence courses and radio programmes offered by AMREF

Correspondence courses	Radio programme series
1. Child Health	1. Antenatal Care
2. Communicable Diseases	2. Cardiovascular Diseases
3. Environmental Health	3. Common Accidents
4. Family Planning	4. Community Health
5. Mental Health	5. Control of Diarrhoeal Diseases
6. Gynaecology and Obstetrics	6. Dental Health
7. Helping Mothers Breastfeed	7. Diabetes
8. Medicine (Non-communicable Diseases in Adults)	8. Diseases of the Joints and Soft Tissue
9. Community Health	9. Ear, Nose and Throat Conditions
10. Immunisation	10. Environmental Health
	11. Eye Conditions
	12. Family Planning
	13. Growth Monitoring
	14. HIV/AIDS
	15. Immunisation
	16. Mental Health
	17. Nutrition
	18. Peptic Ulcer Diseases
	19. Selected Common Medical Conditions
	20. Sexually Transmitted Diseases

4.3 Correspondence courses

The medium of instruction for the correspondence courses is specially prepared printed materials. The print-based courses are of two types. The first type of course is based on AMREF manuals and often refers learners to read the manual during the course. The second type is self-contained and does not rely on any reference manual.

Originally, AMREF used standard medical manuals in its DE courses. These were, however, found to contain information in a format that could not easily be understood by low- and middle-level health workers. For this reason, therefore, AMREF prepared guidebooks based on these manuals which were easier to understand and were used in conjunction with the manuals. During the course of the programmes, some of the guidebooks have been revised several times. Many of the reference manuals are now out of print and often have to be imported, which is uneconomical. As a result, AMREF began to develop a series of self-contained units. This reduced the need for reference manuals, and the units are now being used in the second type of print-based course. Both types of courses are divided into units. Each unit is made up of a study guide, an assignment and sometimes a hand-out carrying important information missing from the reference manual. The number of units ranges from seven (Helping Mothers Breastfeed) to 16 (Community Health and Medicine). Most courses have 10-11 units.

4.3.1 Target population

The target population for AMREF courses consists of approximately 40,000 health workers such as enrolled community nurses, clinical officers and public health technicians. These health professionals work in all parts of Kenya and are located in both rural and urban dispensaries, district hospitals and clinics. They are the immediate beneficiaries as their knowledge, skills and attitudes are improved and they are better able to provide services and increase their efficiency. The ultimate beneficiaries, of course, are the predominantly rural and poor urban populations who are provided with improved health care services. Table 4 gives information on learner enrolment by cadre from 1.1.1980 to 11.3.1999.

Table 4: Learner enrolment by cadre (cumulative figures)

Cadre	Number of learners enrolled	Active	Dormant	Completed
Diploma in rural development	29	14	2	13
Community health field worker	91	55	14	22
Clinical officer	468	201	91	176
Dental technician	20	8	2	10
Enrolled community nurse	3,718	1,555	558	1,604
Family health field educator	84	27	23	34
Kenya registered nurse	743	332	133	278
Laboratory technician	355	160	51	144
Doctor/lecturer	7	2	5	0
Nutrition field worker	63	27	10	26
Occupational therapist	102	39	18	45
Patient attendant	545	224	75	245
Pharmacy attendant	46	22	12	12
Primary health care	4	2	1	1
Public health officer	89	38	16	35
Public health technician	1,416	462	207	747
Physiotherapist	55	27	10	18
Radiographer	35	17	5	13
Demographer	5	3	1	1
Statistical clerk	91	43	9	39
Social worker	24	9	6	9
TOTAL	7,990	3,267	1,249	3,472

4.3.2 Admission criteria for correspondence courses

The correspondence courses are open for admission to any health worker currently employed in the health service. There are no restrictions relating to the grade or kind of medical qualification. However, applicants are expected to have at least two years experience in the field.

4.4 Radio courses

AMREF currently runs two radio courses:

- Health is Life
- Doctor AMREF.

The main purpose of Health is Life is to update the knowledge, skills and attitudes of health workers. It is not part of the correspondence courses, although it offers some topics that could be useful to learners enrolled for courses covering a similar area. The series of programmes which make up the course are aired on the General Service of the Kenya Broadcasting Corporation every Sunday from 8-8.15p.m. There are 20 series, which are listed in Table 3.

Each series consists of a number of programmes. The shortest series has five programmes, while the longest (on Sexually Transmitted Diseases) has 24. Normally all programmes of the series are aired before a new series is started. However, sometimes a series may be interrupted for special reasons – for example, if there is an outbreak of an epidemic, or if there is a national event such as the immunisation week. In such cases, the topical events will be highlighted, after which the original series will be resumed. At the end of each programme, there is a brief assignment which some listeners complete and send to AMREF for comments.

Doctor AMREF is targeted at the general population. It is aired on the General Service of the Kenya Broadcasting Corporation on Saturdays from 8-8.15p.m.

4.5 Sources of funding

The AMREF Distance Education Project is almost entirely donor supported. The first donor to support the project was the Danish International Development Agency (DANIDA). The Swedish International Development Agency (SIDA) has provided continued funding for the programme, which was supplemented by donations from the United States Agency for International Development (USAID) for regional activities such as workshops. More recently, donations have also been received from Spain. In addition, AMREF has introduced a cost-sharing initiative where learners are expected to pay a standard amount of Kshs 1,000 per course.

4.6 National, regional and international partners

AMREF maintains a steady working relationship with the Kenyan Ministry of Health and its Continuing Education Department. Most of the tutors working with the Distance Education Project are recruited from the Medical Training College, which is a division of the Ministry. In addition, AMREF co-operates with the Kenya Broadcasting Corporation (KBC) in the production and presentation of its radio programmes, whose format is prepared in conjunction with the Kenya Institute of Education (KIE).

Regionally, AMREF has been instrumental in the foundation of medical DE programmes in Uganda, Tanzania, Zimbabwe, Ethiopia, Sudan and Botswana. It has also been involved in training programmes for writers in DE in many of these programmes.

Internationally, AMREF assisted with the establishment of a DE programme in the Solomon Islands. In addition, the institution obtained its key database programme, which it uses to store and update all project records, from the Commonwealth of Learning in Vancouver, Canada. The International Extension College, Cambridge, UK, trained the staff of the Distance Education Project in methods of distance teaching.

5 MEASURING SUCCESS

5.1 Learner enrolment and retention rates

The data from the distance education project reveal some surprising findings. Based on the indicators for measuring success, it was determined that the number of learners taking AMREF courses has increased dramatically. Table 5 gives the breakdown of learner enrolment for each of these courses since the project started in 1980 to date.

As was stated earlier, in the first intake only 200 learners were enrolled. By the end of March 1999, AMREF had enrolled 7,991 learners; and by June 1999, the total enrolment had reached 8,047 of whom 6,004 (75 per cent) were men and 2,043 (25 per cent) women. The target population is approximately 40,000 health workers, working in different health facilities all over the country. Considering that these learners are not receiving any recognisable certificates, the number of learners enrolled for the courses is quite encouraging.

In terms of completion rates, Table 5 shows that 43.5 per cent have completed the course, while 40.9 per cent are still actively involved. Only 15.6 per cent have dropped out. When asked whether or not they would like to take another AMREF course, 73.1 per cent of the dormant learners answered 'yes' while only 3.8 per cent said 'no'. The remaining 23.1 per cent were not sure.

Table 5: Learner enrolment up to end March 1999 **(Cumulative figures since 1980)**

Course	Learners enrolled	Active	Dormant*	Completed
Child Health	1,044	388	189	467
Communicable Diseases	1,564	539	183	842
Environmental Health	424	107	31	286
Family Planning	174	68	30	76
Mental Health	258	105	23	130
Gynaecology & Obstetrics	1031	434	168	429
Helping Mothers Breastfeed	197	56	30	111
Medicine	1,279	712	219	348
Community Health	2,017	855	376	784
Immunisation	3	3	0	0
TOTAL	7,991	3,267	1,249	3,473

*A dormant learner is one who has not submitted an assignment for more than six months.

5.2 Relevance of the project

Most of the respondents (80.4 per cent) stated that the courses they were taking were directly related to their work. The remaining 19.6 per cent felt that the courses were not directly related to their line of work. Note, however, that some of the learners taking AMREF courses are **not** medically qualified. All AMREF courses have received very positive comments from the DE learners, including the following.

- The courses assisted me very much with my duties.
- The courses taught me a lot about new diseases which were not discussed in basic training.
- The courses were very convenient because I could do them at my own pace and time.
- The topics were well described and easy to understand.
- The courses helped ease the daily workload of managing patients.
- The courses helped me on new developments in the field.
- The study guides obtained with the courses were good for teaching others.

Table 6 gives a summary of comments by DE learners on the various courses offered.

Although none of the learners stated that the courses were not useful, there were several complaints and suggestions for improvement. Respondents stated that:

- some of the coursework was difficult to understand
- some topics were not dealt with in depth/ were too elementary
- more practical demonstrations were needed
- some topics needed clarification by the tutor
- AMREF should hold some residential sessions.

The most popular course among active learners was Community Health, with 21 respondents citing it as their number one preference. Their least popular course was Environmental Health, with only two respondents citing it as their number one choice. Amongst dormant learners, the most popular course was Gynaecology and Obstetrics (seven respondents) while the least popular was Mental Health (no respondents).

Tables 7 and 8 give a summary of preferred courses of both active and dormant learners.

Table 6: Respondents' comments on the AMREF courses (multiple responses)

Course	Very useful	Useful	Not useful
Child Health	18	5	0
Communicable Diseases	17	13	0
Environmental Health	5	4	0
Family Planning	5	4	0
Mental Health	2	6	0
Gynaecology andObstetrics	6	9	0
Helping Mothers Breastfeed	3	2	0
Medicine	15	7	0
Community Health	13	14	0

Table 7: Courses in order of preference as ranked by active learners

	Rank of course								
Course	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Child Health	13	16	15	7	7	7	3	2	3
Communicable Diseases	14	18	12	9	7	4	2	1	0
Environmental Health	2	8	11	9	9	6	10	4	7
Family Planning	11	8	6	5	8	11	4	10	3
Mental Health	3	1	4	8	4	8	12	6	16
Gynaecology and Obstetrics	8	6	8	5	11	6	5	8	3
Helping Mothers Breastfeed	3	5	5	4	4	8	10	9	16
Medicine	17	10	0	11	5	6	5	3	9
Community Health	21	7	11	9	2	2	3	6	3

Table 8: Courses in order of preference as ranked by dormant learners

	Rank of course								
Course	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Child Health	1	2	5	1	0	1	3	1	0
Communicable Diseases	5	3	1	1	1	2	3	2	0
Environmental Health	1	0	0	2	1	3	3	0	2
Family Planning	2	3	1	2	1	1	0	0	1
Mental Health	0	0	2	1	4	0	1	3	1
Gynaecology and Obstetrics	7	2	1	0	0	1	2	0	1
Helping Mothers Breastfeed	1	1	11	2	2	2	1	0	3
Medicine	4	3	0	4	1	2	1	2	0
Community Health	2	1	4	1	2	0	0	2	2

Table 9: Comments on layout of printed materials

n = 92 (multiple responses)

Style of unit	No response	Yes	No
Illustrations make the unit more interesting	27	63	2
Illustrations make it easier to understand the topic	25	67	0
Illustrations help you remember the information	28	63	1
Illustrations are suitable for health workers	28	64	0
Symbols used in the unit are good	26	66	0
Units are clearly written	26	63	3
Language used is too difficult	27	2	63
Technical terms have not been explained	25	0	67
Too much repetition	28	1	63
Some paragraphs are contradictory/illogical	28	0	64

Respondents also expressed satisfaction with the layout of the course materials. There were positive reactions to the illustrations, symbols and presentation style used in the correspondence units, as shown in Table 9.

The relevance of the AMREF courses is further stressed by an examination of responses from dormant learners. Only two respondents out of 26 stated that they had stopped doing the AMREF course because they were not pleased with its content or result. Of these two, one stated that she had stopped doing the course because she found the course content too difficult. The other respondent thought that the AMREF course provided formal upgrading and discontinued her studies when she realised it did not.

Of the remaining respondents, seven were continuing students with the AMREF programme. Five had temporarily discontinued their studies due to personal commitments, while one learner was unable to continue with the course due to financial constraints. One dormant learner had not followed through on his commitment to the course because it had taken over a year to receive the course material, while four learners were still waiting for a response to the last assignments they had sent in for marking. Finally, one student had stopped taking more AMREF courses because he had not yet received his certificate for the previous course he had done.

It can be concluded, therefore, that the majority of dormant learners (73 per cent of respondents) did not discontinue their studies because they were dissatisfied with the course content or felt that it was irrelevant to their work.

5.3 Demand for the project

The data showed that 56.5 per cent of the sample of active learners in the AMREF DE courses were aged 31-40, as were 16 of the 26 dormant learners. This gives us a total of 61.5 per cent of the sample population. The lowest number of learners was found in the 21-25 age bracket. Among active learners, only one per cent of the sample population fell into this bracket, while the dormant category registered 11.5 per cent of its sample population (which it must be noted, however, was considerably smaller) in this bracket. Only one learner (dormant) below the age of 20 was registered. These findings imply that health workers who have been out of the educational system for a period of more than ten years appear to feel the strongest need for revision and updating of knowledge.

There was a larger percentage of male than female learners. Out of the 92 respondents in the active learner category, 58 were male and 34 were female. In the dormant learner category, the same trend was apparent. Out of 26 respondents, 17 were male and nine were female. 86.9 per cent of the active learners and 69.2 per cent of dormant learners were married. Eight active and seven dormant learners identified themselves as single, while a negligible number of respondents (four active and one dormant) classified themselves as single parents.

The majority of respondents had secondary school qualifications. Their professional qualifications varied from traditional birth attendants to Kenya Registered Nurses and clinical officers. In the active learner category, the most common professional qualification was Enrolled Community Health Nurse (ECHN) (27 respondents), closely followed by Kenya Enrolled Nurse (KEN) (15 respondents). In the dormant learner category, these were also the two most common professional qualifications, with nine ECHNs and three KENs.

The majority of health workers taking the AMREF DE course seem to be centred in public health facilities. In total (that is, both active and dormant learners) 85 out of a total sample population of 118 work in the public sector. Another 24 are based in private health facilities, with the remaining nine distributed among non-governmental organisations. 53.4 per cent of the respondents are based in hospitals; another 14.4 per cent are in clinics; 12.7 per cent work in health centres; while a further 7.6 per cent work in dispensaries.

The total number of districts represented in the study was 37. There was a fairly adequate

Table 10: Respondents' place of work

Workplace	Active learners (n=92)	Dormant learners (n=26)
Dispensary	8	1
Clinic	9	8
Health centre	14	1
Hospital	51	12
Community centre	0	1
Nursing home	0	1
Field project	1	1
Public health office	2	0
Medical training college	3	0
Not applicable	0	1
No response	4	0

Table 11: Frequency distribution of AMREF, MOH and other courses (multiple responses)

Institution	1 course	2 courses	3 courses	4 courses	5 courses	Over 5
AMREF	29	15	8	6	4	4
MOH	14	8	10	3	1	5
Other*	13	5	4	2	0	0

representation of rural areas and urban centres and areas that are traditionally classified as 'remote'.

An overall comparison with other continuing education courses currently on offer by a variety of organisations and institutions showed that, in spite of any criticisms, there was still high demand for AMREF courses. 29 active learners were taking at least one AMREF course as compared to 14 taking one course offered by the Ministry of Health (MOH) and 13 taking one course from any other* institution.

The researcher noted that there was an inverse relationship between the number of courses taken under AMREF and those taken under the MOH. Learners who took more courses under the auspices of the MOH tended to take fewer courses with AMREF and vice versa. In this respect, AMREF seems to be achieving its objective of reaching health workers least exposed to further training.

Table 11 shows a comparison between the frequency distribution of AMREF course learners and learners taking courses offered by the MOH and other institutions or organisations.

5.4 Change of attitudes, practices and behaviour

75 per cent of active learners stated that they had benefited in their career development through the AMREF courses they had studied. In the dormant learner category, there was a similar response, with 73 per cent of respondents stating that their career development had benefited. The response pattern was also similar amongst those who stated their careers had not benefited from the AMREF course. 11.9 per cent of the former and 11.5 per cent of the latter stated that they had not found any improvements in their career after completing an AMREF course.

Amongst those in both categories who stated that their career development had benefited, the following reasons were cited. (Numbers of respondents in brackets.)

- The skills and knowledge I have acquired have improved my daily work and made it easier (35).
- I have been able to diversify my career through being exposed to different possibilities by AMREF courses (3).
- I was considered by the Public Health Co-ordinator to be one of the best managers because of my Community Health skills (1).
- I am able to attend to my patients with added confidence (13).
- I have added qualifications to my CV (3).

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* For the purpose of this study 'other' will be used to refer to any institution that is not AMREF or the MOH. These include St. John Ambulance, Amani Counselling Centre, PCEA Kikuyu Hospital, AIC Kijabe Hospital, SIDA, University of Nairobi, Red Cross Society, Israel, Netherlands, Rotary Club etc.

- I am getting more satisfaction out of my job now (2).
- I have been a source of information to my colleagues (4).
- I am reminded of essential knowledge that I had forgotten from my basic course (4).
- I have been able to get a better paid job (1).
- After my Community Health course I qualified to become a Registered Mediator with Lillian Foundation of Holland (1).
- It improved the way I attended to my patients, and I was consequently selected for a college admission (1).

The supervisors of staff taking the AMREF course said staff were 'more competent', 'more knowledgeable' offered 'improved patient care' and had 'improved interpersonal relationships and communication skills'. One supervisor remarked that staff in her institution who had completed the AMREF course had received high endorsements from their patients.

It should be noted that of the ten supervisor respondents, nine stated that they would like members of their staff to take an AMREF course. This was because they felt that:

- the courses offered were very applicable to the current working environment
- the courses updated their staff
- the courses improved the skills of their staff
- ultimately, the services offered by their institution were improved.

5.5 Cost-effectiveness of the project

When establishing a distance education system, the cost of the programme must be carefully planned for by considering the following cost factors.

- **Production**. This includes the cost of developing or adapting study materials such as print, video cassettes, audio cassettes, kits for practical work.
- **Transmission**. This means the cost of delivering study materials to the learners – for example, via radio or via the post office.
- **Maintenance**. This includes revision of materials and maintenance of necessary equipment.
- **Support**. This includes miscellaneous expenses needed for the programme to operate successfully, such as administrative costs (salaries of permanent and part-time staff).

Although the initial costs of starting up a distance education programme are high, the costs associated with conventional education are similarly high. On the other hand, the operational costs in distance learning tend to decrease with the increase in the numbers of distance learners and after the initial outlay for the production of learning materials.

In a study carried out by Development Solutions for Africa (1997), it was reported that in 1995/96 AMREF spent KSh 3,350,000 on their distance education project. Considering that in that year 391 learners completed the course, the average cost per learner was, therefore, approximately KSh 8,500. The report further suggests that since it takes about 40 days to complete an AMREF course, then the cost per head per day is approximately KSh 210.

The budget set aside for the distance education project of AMREF in 1997/98 was KSh 3,700,000 (Ministry of Health, 1997).

5.6 Status of the project

Several students stated that the AMREF DE courses had benefited their careers in terms of increased educational and professional opportunities. According to a policy maker with the Division of Family Health, AMREF certificates, 'add weight to job interviews and influence them in the favour of certificate holders'. He also stated that some institutions, especially missions, recognise the AMREF certificate.

According to the Acting Director of the AMREF Country Office, the MOH has given AMREF the authorisation to administer DE courses and collaborates with AMREF at the district level. The certificates obtained on completion of the course are signed by the Manager for the Kenya National Continuing Education Programme, MOH and the Director of Training, AMREF. However, the certificate is still not recognised for automatic job promotion by the MOH.

5.7 Measures to sustain the project

The AMREF DE programme is primarily funded by donors. As a result of structural adjustment policies and economic recession in a number of countries, donor funding has been, and will continue to be, cut back to both government and non-governmental agencies and programmes. At the moment, the Programme Co-ordinators are never sure when donor funding will be withdrawn, because of the unstable economic situation in the region. Despite stressing the importance of distance education, the MOH does not offer any funding for the programme, although it channels to AMREF funds received from SIDA specifically earmarked for the distance education programme.

In anticipation of the funding problem, AMREF introduced cost-sharing measures in an effort to ensure the long-term sustainability of the DE project. Learners are now required to pay Kshs. 1,000 per course as well as provide postage stamps for submissions of their completed assignments. When asked to compare the cost of AMREF courses to that of courses currently on offer by other institutions, 40 respondents from the active learner category stated that, in their opinion, they were paying a fair amount. The following reasons were given.

- Even the lowest earning health worker can afford to pay Kshs 1,000 (US $15).
- AMREF gives learners a chance to pay in instalments which makes it easier.
- Generally, other courses on offer, especially medicine, are very expensive. AMREF is much cheaper by comparison.
- Taking into account the cost of materials and marking, the cost is very fair.
- I get materials which I can continuously refer to even after completing the course and a certificate.

Seven respondents stated the amount was too high. This was because previously the courses were free and many of the health workers found having to pay Kshs 1,000 a huge strain on their financial resources. Nine respondents said they felt the cost was too low and should be increased. The following reasons were given.

- The cost of living (and therefore printing, postage and so on) is now very high.
- The price charged is too low compared to the amount of course materials given.
- The materials given are well written and therefore more valuable.
- Other institutions, like mission colleges, charge up to Kshs 30,000 (US $460) per year.
- Since the course is so useful, the payment should be higher.

Table 12: Amount of fees learners are prepared to pay

Amount in Kshs (US $1 = Kshs 65)	Active learners (n=92)	Dormant learners (n=26)
Less than 200	4	0
1000	19	5
1000-1500	21	5
1500-2000	5	1
2000- 2500	0	0
2,500-3000	3	0
3,000-4000	1	0
10,000	3	0
Undecided	1	0
Not applicable	10	8
No response	25	7

Table 12 shows the amounts both active and dormant learners would be willing to pay for the courses.

Finally, according to the Distance Education Officer, AMREF, the institution plans to lobby the MOH to decentralise the DE programme to district level. At this level the Continuing Education Co-ordinators will be expected to run the programme. Meanwhile, the production of materials will remain AMREF's responsibility.

5.8 Comparative use of media: radio versus correspondence

23 per cent of the active learner sample population stated that they had **not** listened to any programme from the radio series. This finding corresponds with figures quoted by AMREF which states that, on average, 70 per cent of health workers listen to the radio programmes they produce. The most popular radio series among those who had listened to AMREF programmes was that on Sexually Transmitted Diseases and HIV/AIDS Control, with 18 respondents stating that they had listened to this programme. Other programme topics ranged from nutrition to drug dependence and abuse. Those respondents who did listen to radio series had a mostly positive response to the content and value of the programme. Reactions to the programme included the following.

- The programme taught me how to explain diseases in Kiswahili to patients.
- I learnt new methods of management.
- I learnt how to follow up cases.
- I learnt different approaches and techniques of family planning.
- I learnt about the transmission and management of communicable diseases.
- I learnt about the spread and control of diarrhoeal diseases in children.
- I learnt that STDs are directly/indirectly related to AIDS.
- I was updated on new methods in the medical field which I then applied at work
- The programme reinforced advice I gave to my patients who may have heard similar advice from doctors on the radio.

Table 13: AMREF radio series listener distribution (multiple responses)

Name of radio series	Number of listeners
STD and HIV/AIDS Control	18
Health is Life	10
Immunisation	6
Dr AMREF	6
Dental Health	5
Diseases of the Joints and Connective Tissues	4
You and Your Health	3
Diabetes	3
Communicable Diseases	3
Mental Health	3
Community Health	3
ENT	3
Breast Feeding	3
Control of Diarrhoeal Diseases	3
Medicine	2
Environmental Health	2
Tuberculosis	2
Anaemia	2
Cardiovascular Disease	2
Maternal Child Health	2
Antenatal Care	1
Eye Conditions	1
Drug Dependence/Abuse	1
Malaria	1
Inhaling Poison	1
Intestinal Worms	1
Depression	1
Meningitis	1
Daktariwa Redio	1
Paediatrics	1
Asthma	1
Nutrition	1
Non-Communicable Diseases	1
Hypertension	1
Do not listen to radio series	21

Table 14: Reasons respondents like the radio series (multiple responses)

Comments on radio series	No. of respondents
Increases general public awareness of diseases	6
Topics are well presented	6
Brief, clear and to the point	8
The message is real	1
Can listen and do other things simultaneously	1
Language used is simple	5
Programmes update the listener	3
Programmes are educational	5
It's like having personal contact with your tutor	5
The programmes are stimulating	2
Instant gratification	3
Enables revision especially if also doing correspondence course	3
Encourages private research	1

Table 15: Reasons respondents do not like the radio series (multiple responses)

Comments on radio series	No. of respondents
The programme is too short	20
Questions cannot be directed to the tutor/speaker	3
Points which are not understood cannot be repeated	2
Tutor cannot demonstrate	1
Some tutors are very fast and shallow in their lectures	5
Timing is inconvenient	8
Subject matter unsuitable for young children. Deters those with families	1
Programmes are not systematically organised. Tend to cover a variety of topics in one series	1
As a parent I am too busy to listen to the radio	1
Programmes are not consistently repeated	3
There is no monitoring/follow-up of answers sent to the programme	1

One respondent stated that the programme had taught him 'nothing new', while another said it was difficult to learn by listening to the radio, since 'at that time there is disturbance with the children and it is time to guide them with their studies'. Despite the fact that most respondents stated that they had indeed learnt a lot from the radio programmes, there were

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mixed reactions to the presentation of programmes and effectiveness of the radio as a tool of distance education. Tables 14 and 15 give a brief summary of both positive and negative reactions to the radio series among active and dormant learners.

Respondents, therefore, had mixed reactions to the use of radio as a tool of DE. However, a large number of learners saw the integral value of the radio programmes. Eight respondents said that the programmes were brief, clear and to the point. Five said that listening to the radio programme was like having personal contact with your tutor.

Learners gave several reasons for wanting to take the course through both radio and printed materials. These included the following. (Numbers of respondents in brackets.)

- I can listen to the radio and remind myself of what I cannot recall through print (6).
- We learn 80 per cent from seeing and hearing, which means the use of both print and radio is best (1).
- If it is only done through the radio, I may not be available during broadcasting. But with print also, I can refer to the materials for what I missed (5).
- I can hear, read and answer (1).
- If you are taught over the radio, and then attempt the printed material, you will learn more easily (2).
- The repetition (radio) and illustration (print) will provide double help (1).
- If I don't understand the print materials when I read them, I'll understand the topic when I hear it on the radio (11).

The final comment, which was made by the majority of respondents, ties in with a comment made by a policy maker in an interview, who stated that 'radio lessons are also positive because in some cases people understand better when they hear than when they read'.

6 OBSERVATIONS AND CONCLUSIONS

6.1 Enrolment numbers

The number of learners enrolled for the AMREF distance education courses is quite encouraging, especially considering that the certificates issued are not recognised by the Ministry of Health for automatic promotion. A look of the geographic distribution of learners shows that they come from all provinces of the

Table 16: Respondents' choice of media (n = 92)

Preferred media	No. of respondents
Radio only	0
Printed materials	21
Radio and printed materials	39
Television	1
Television and printed materials	5
Radio, television and printed materials	6
No response	15
Not applicable	5

country. A closer look, however, reveals that learners seem to come in clusters from certain areas, especially where there is a larger healthcare facility. This suggests that information on the availability of AMREF courses is obtained by word of mouth rather than by an effort to advertise the project in areas with low enrolment.

6.2 Relevant qualifications

The data showed that the majority of learners have relevant qualifications and experience. However, the researcher noted that despite the fact that AMREF states one of the necessary qualifications for learners on the DE course as being 'basic medical training' a number of respondents did not list medical training as being amongst their qualifications. The study recorded one BEd (Arts), one accountant/computer, one sales/marketing, one institutional management, one copy typist, one trained soldier, one Diploma in Social Work, one untrained nurse and one boiler operator. This is perhaps due to the fact that candidates are not required to enclose photocopies of their professional certificates with their applications.

6.3 Relevance of the project

While the majority of learners stated that they find the courses relevant to their work, almost 20 per cent indicated that the course they are taking is not directly related to their work. Granted that some of the learners are not professionally qualified and are taking the course out of personal interest, one should ask the question, 'Why should a health care worker study a medical course that is not directly related to their work?' The answer perhaps lies in a closer examination of the list of courses offered by AMREF.

If, for example, a nurse working in a mental care facility completes the one course offered in her area of work, what is the next related course she could take? Or if a paediatric nurse completes the course on child health, she, similarly does not have another choice of a course in her area. Therefore, they opt to take any other course that might present some interest to them with the hope that they may get a better chance to move to a different ward, especially if they are in a large hospital.

In a list of recommendations submitted to the researcher by respondents, 30 per cent of respondents stated that AMREF courses should be upgraded, recognised by employers and educational institutions and considered for promotions. If the courses offered by AMREF were aimed at a particular category of health worker and were structured so as to start from the basic training level, bringing the learner up to a higher level through a series of related courses, perhaps there would be a stronger case for recognition of the certificates. When planning an education programme, it is important to see it as a continuing programme, bringing a learner from a lower level to a higher level of learning.

There was also an apparent contradiction between respondents who found certain topics too difficult while others said they found those topics shallow. This is because some learners did not have the necessary professional qualifications for the course they were taking, and gaps in their basic knowledge prevented them from understanding the subject matter. On the other hand, others were overqualified and found the materials to be a repetition of what they did at their training institute.

6.4 Usefulness of the project

The respondents noted an increase in knowledge and acquired a variety of skills as a result of the completion of the AMREF course(s). Generally, learners learned about new medical conditions, especially in the area of sexually transmitted diseases (STDs), gained new skills in physical examination, refreshed their knowledge in areas previously studied and noted an increase in confidence in the workplace.

6.5 Learner support

One of the most common complaints among correspondence learners was that it took too long for course materials to be received after registration for a course. Once assignments had been completed and returned to the AMREF centre, it also took a long time for grades to be submitted to the learner. 11 respondents stated that it took up to one month to receive course materials once they had registered for the course, while four respondents said in their case it had taken two months. Two respondents stated it had taken over four months to receive their course materials. The majority (nine) stated that it took up to two months for receipt of their grades after submission of assignments.

Several of the dormant learners stopped doing AMREF courses because of the delay in receiving their course materials and grades. Several complained that they did not receive their certificates on completion of the course.

In addition, most active correspondence learners had not had an opportunity to meet with their tutors. 55 learners from the sample population stated that they had never met their tutors. Only 24 respondents had ever met their tutors. 25 respondents said they would like to meet their tutors every three months while 14 respondents said they would prefer to arrange meetings with their tutors once a month. Four respondents said they had never even heard from their tutors let alone met them. The largest number of respondents (14) heard from their tutors once a month followed by (13) who heard from their tutors once every three months (when they received their marked assignments).

For distance learners who study alone, it is important to establish a system of quick response, and promote a caring attitude to encourage learners to complete their studies. This is even more important where face-to-face sessions have been discontinued.

6.6 Radio programmes

The radio programme seems to fulfil in many learners their need for instant gratification in terms of knowledge gained and for more regular contact with a tutor. The correspondence course, meanwhile, fulfils learners' needs for consistency and the ability to conduct in-depth studies at their own pace This explains why 42.4 per cent of active learners said that they would prefer to take the course they were currently studying through both radio and printed materials.

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Chapter 4

TANZANIA: INADES-FORMATION-TANZANIA

Amon Z. Mattee

1 INTRODUCTION

1.1 Socio-economic context

Tanzania is made up of two former British Colonies – Tanganyika and Zanzibar which attained political independence in 1961 and 1964 respectively. With an area of about 945 square kilometres, it is the second largest country in East Africa. (see Hall and Dodds, 1974). At an average annual growth rate of 2.8 per cent, the country's population has grown from about 23.2 million (1988 census) (Chale, 1992) to about 30 million in the late 1990s (World Bank, 2000).

Kuhanga (1981) noted that 90 per cent of the people lived in rural areas. According to Kuhanga (1981) and Chale (1992) Tanzania is one of the poorest countries in the world. It is largely an agricultural country with about 85 per cent of its active population engaged in agriculture.

The Tanzanian government has always viewed education as one of the most important instruments for development (Chale, 1992). The country's social economic and political policies and priorities had a great impact on the development and provision of both formal and non-formal education. In particular, the provision of adult education through study campaigns in the late 1960s and early 1970s emerged from 'the establishment of democracy within a single-party system, economic development within a framework of rural socialism, and the reform and expansion of the education system to suit the requirements of and to contribute to Tanzania's developing society' (Hall and Dodds, 1974: 5).

The rapid expansion of the economic and social services since independence included the introduction of universal primary education and a comprehensive adult education programme which was launched in 1971 as a deliberate national policy (Kuhanga, 1981). This resulted in higher literacy enrolment figures. Over 90 per cent of the adult population was literate, while gross primary school enrolment was 80.5 per cent (Chale, 1992).

The expansion of the economic and social activities necessitated the development of human resources, particularly to manage the agriculture, education and health sectors. Distance education was therefore adopted as one of the strategies for expanding the country's socio-economic activities through the development of human resources.

1.2 Distance education in Tanzania

In Tanzania, distance education has existed in several forms since the time of independence. School radio programmes to supplement school teaching were very common during the 1960s and 1970s, when virtually every primary and secondary school in the country had a radio set, and students had to spend at least several hours per week listening to appropriate programmes on the radio. Due to financial and logistical problems, however, this particular approach has waned over the years.

The country has also successfully implemented radio study group campaigns on various themes. One example was *Uchaguzi ni Wako* (The Choice is Yours) in 1969, to educate the population on the machinery of government and the electoral process, and to stimulate discussion on the duties and responsibilities of elected representatives, ready for the parliamentary and presidential elections of 1970. Another campaign, *Wakati wa Furaha* (Time for Rejoicing), was conducted in 1971 to mark Tanzania's ten years of independence. The major goal was to deepen Tanzania's sense of nationhood and history. The biggest campaign, *Mtu ni Afya* (Man is Health), was carried out between 1972 and 1973 with the aim of raising awareness about the importance of living healthy lives, and teaching people how to prevent infections (Hall, 1978). These three campaigns demonstrated beyond doubt the potential of radio as a powerful medium for reaching a wide mass of the people within a short time and without much investment in infrastructure.

Correspondence courses have also been used in Tanzania for a long time, initially being offered by foreign correspondence institutions, to provide secondary level studies. Towards the end of the 1970s, however, the government established the National Correspondence Institution (NCI) within the Institute of Adult Education, with the main purpose of providing an opportunity for the career advancement of professionals. The specific objectives of the NCI were, according to Ntirukigwa (1986):

- to equip Tanzanians to fill jobs which met the manpower needs of the country
- to help Tanzanians understand the nation's policies, and thus participate more fully in carrying out national policies and programmes
- to supplement efforts being made by leaders and adult educators in various departments of government to bring about economic and social development in the rural areas.

Since its inception, the major thrust of NCI programmes has been in secondary and professional courses. It has helped those with primary-level education to attain secondary-level education (as a pre-requisite for professional training), and those with secondary-level education to obtain professional qualifications, particularly in the areas of public and business administration as well as in the teaching profession.

Other notable distance education programmes in Tanzania include:

- non-formal correspondence courses offered by the Correspondence Department of the Institute of Adult Education. Its first programmes in this area started in 1971. The content includes political education, book-keeping, agriculture and management education. The courses are targeted at adults mainly in rural areas with literacy but limited formal education (Dodds, 1996).
- the primary distance teacher training programme which was launched in the 1970s to supply teachers to meet the needs of the Universal Primary Education programme. The conventional teacher training colleges could not help solve the problem of teacher shortage, while the demand for teachers increased with the introduction of Universal Primary Education (Chale, 1992)
- the African Medical Research Foundation (AMREF) programme, also established in the 1970s, which provided public education in health using distance learning methods, in

addition to its flying doctor service (Chale, 1995).

- the 'Health and Sanitation through Water' health education project (HESAWA) study group programme launched in 1986. The target audience was adults in rural communities in Tanzania's lake region. Distance education methods included audio-cassettes, flip-charts, participants' illustrated books, study groups and so on. (Chale, 1995; Dodds, 1996).
- Several degree programmes offered by the Open University of Tanzania (OUT) which was established by Act No.17 of 1992 and became operational in 1993. Its first students were registered in January 1994 (Chale, 1995).

As Chale (1995) observed, distance education in Tanzania is well established and has grown during the last 30 years 'not only in numbers of projects or institutions but also ... in programmes and student body' (Chale, 1995: 5). Another important aspect of the development of distance education in Tanzania is the 'sustained government involvement and interest in distance education' (Chale, 1995: 4).

However, in the field of agriculture, distance education has been less common, with only occasional radio programmes being prepared by the Ministry of Agriculture and Cooperatives or some of the crop marketing boards to exhort farmers to use improved agricultural practices. Such radio programmes have had limited impact because they are not linked to the agricultural extension or farmer training programmes of the Ministry. Also, since farmers are not organised into radio listening or discussion groups, the information so broadcast is not adequately internalised by farmers. Farmers, therefore, have had limited opportunities for accessing agricultural knowledge and information, particularly considering that the agricultural extension services are quite inadequate and the farmer training programme within the Ministry of Agriculture and Cooperatives has virtually ceased to operate (Mattee, 1994).

1.3 INADES-Formation

INADES is the French acronym for the African Institute for Economic and Social Development. INADES-Formation (IF) is an off-shoot institution formed with the aim of providing training to rural communities. The organisation started its operations in 1962 in West African countries, with Abidjan, Ivory Coast, being the headquarters. The aim then was to train farmers and extension workers through seminars and correspondence courses. With time, more francophone countries were added, including Cameroon, Burkina-Faso, Chad, Zaire (now Democratic Republic of Congo), Rwanda, Burundi and Togo.

In the early 1970s, two anglophone countries – Ethiopia and Kenya – were included. The programme in Tanzania was started in 1989, as a branch of IF-Kenya. In 1992 it became an autonomous national office, IF-Tanzania, with its own offices in Dodoma in central Tanzania.

From its creation in 1962, INADES-Formation devoted itself to correspondence training, first for African officers through the Economics course, and from 1965 for African farmers through the Agricultural Training course. Later on, other courses were added: Training in Rural Self-Advancement, also for farmers; Agricultural Extension and Small Projects Management for extension agents. Later still, a course on Perspectives in Development was designed for development workers.

Correspondence courses dominated IF's training approach up to the 1990s, when other methods started taking precedence. At the end of the 1996/97 financial year ,correspondence courses consumed only seven per cent of the time spent on activities in National Offices. There were 11,853 trainees enrolled on correspondence courses, compared with

20,599 in 1992/93, and more than 25,000 in 1989/90 (INADES-Formation, 1998).

1.4 Origins and historical development of IF-Tanzania's correspondence courses

IF-Tanzania has been the only institution in Tanzania offering distance education in the form of correspondence courses to farmers and rural-based development workers. Originally IF-Tanzania operated two parallel programmes:

- correspondence courses offered to trainees from all over the country
- seminars organised for farmers and extension workers in regions close to Dodoma, including Dodoma itself, Singida and Morogoro Regions.

The initial activities of IF-Tanzania were to run an agricultural training course in the form of seminars for farmers at Ipala Mission near Dodoma. Later, the Agricultural Training course was offered by correspondence to farmers and extension workers, using booklets which had been developed at IF-Kenya. While the Kenyan booklets have now been replaced by new books developed to reflect the Tanzanian context, this course has been the most durable and the most popular, and has come to symbolise the original mission of IF.

In due course, two other courses were added: Management for Development Workers (in English), using books developed by IF-Kenya and CORATAFRICA (a development management NGO); and Leadership and Development, a revised and expanded Swahili version using materials developed at IF-Tanzania. The former course was aimed mostly at those who had completed at least four years of secondary education, and were either working or aspired to work as development workers, village leaders, middle-level managers, extension workers, teachers, trainers, religious leaders and government officials. The latter course was aimed primarily at farmer leaders (for example, of groups, co-operatives or income-generating projects), extension workers and other rural development workers with at least primary-level education.

1.5 Current focus of IF-Tanzania

As with the rest of the IF network, emphasis has significantly shifted in recent years from correspondence courses to other approaches. The correspondence courses were seen as merely facilitating the transfer of knowledge from experts to farmers without really creating the necessary capacity for managing change in the rural context. As a result of a context analysis workshop conducted in 1995, which involved farmers and IF trainers as well as other stakeholders, the farmers identified what they saw as the five major challenges facing them (INADES-Formation-Tanzania, 1995):

- how to increase their ability and power to manage properly the natural resources in their environment
- how to determine their own development policies by forming a legal and representative organisation to promote their interests and rights
- how to master prices, markets, flows and exchanges
- how to master resource management at household level
- how to be respected and recognised the way they are.

IF-Tanzania's training activities have since then been based on helping farmers to meet these challenges. Thus, in addition to providing technical information and knowledge, the primary objective of IF-Tanzania is to help farmers better organise themselves and have a voice in society by contributing towards their capacity building.

Hence the TIPACO approach has been adopted –*Training Integrated in Peasants' Actions, Challenges and Organisations.* In this approach, training is rooted in the actions being undertaken by farmers – that is, identifying what the farmers' development activities are, or what they are interested in doing, identifying necessary skills and working with farmers to develop a training programme that will provide those skills.

With the TIPACO approach, IF-Tanzania has redefined its mission, from that of being a provider of technical knowledge and information to a passive audience of farmers, to one of supporting farmers through building their capacity to identify challenges and opportunities, and to take steps that will catalyse the development process (INADES-Formation-Tanzania, 1996).

Using this approach, IF-Tanzania has reorganised its training activities into Training Projects, whereby for each project, trainers work with farmers to learn together through research and training, and to act together to implement specific actions. This is known within IF as Action Research Training (ART) (INADES-Formation-Tanzania, 1996).

The trend in recent years has also been to document the learning process with farmers, which has led to the production of booklets with less technical content, and with more emphasis on methodologies and processes. As a result, correspondence courses are seen as merely playing a supplementary role to the main approach, and slowly the amount of time and resources devoted to correspondence courses has declined. During the 1998 reporting year, only a total 106 person-days were devoted to the marking of assignment sheets from trainees, and out of these, only 25 days were contributed by IF-Tanzania staff, compared to 823 days devoted to the training projects.

Thus, currently, correspondence courses no longer form the core of IF activities, but rather are seen as supporting the training projects and benefiting those who cannot be reached directly by IF-Tanzania, but who are still interested to acquire this knowledge.

2 LITERATURE REVIEW

Distance education includes such strategies as correspondence education, educational broadcasting and independent study. Distance education involves the use of various media including print, radio, television, video tapes, audio tapes, and some face-to-face teaching. Thus, distance education has been defined as:

> 'the family of instructional methods in which the teaching behaviours are executed apart from the learning behaviours, including those that, in a contiguous situation, would be performed in the learner's presence, so that the communication between the teacher and the learner must be facilitated by print, electronics, mechanical and other devices ' (Moore, 1973).

Since the 1950s, the use of distance teaching has grown tremendously all over the world. In developing countries, distance education has expanded in response to political pressure for more educational opportunities against limited means. In many developing countries, there has been a lot of pressure for the expansion of education at different levels in order to offer educational opportunities for all, or most, of the population, or to support agricultural extension services (Dodds, 1983). Distance education has been identified as the most effective system to achieve this quickly, and many developing countries have established national distance education institutions to provide educational opportunities for young adults who have been unable to obtain places in post-primary educational institutions. Many newly independent countries eager for political mobilisation and seeking to promote national integration extensively used distance education methods to reach remote and isolated communities who could not be reached through face-to-face methods. Thus correspondence courses and mass radio campaigns in various fields such as agriculture, health education and cooperative education were used.

In most cases, distance education methods were seen to be a less costly option for many countries which had limited resources to invest in the regular system of education. Dodds (1983) argued that distance education costs less to operate due to the following assumptions .

- Distance teaching makes it possible for a few teachers to reach large numbers of students
- It does not require new schools to be built, it can rely on only the spare-time use of existing buildings and equipment.
- It makes it possible for students to learn while they continue to earn – they do not need to be removed from their productive activities while they study.

Distance teaching is economical. Once the teaching materials have been produced and the system is established, additional students can be enrolled with only marginal cost; and the more students there are, the lower the cost per student.

Evaluation studies and reviews of various distance education programmes in Tanzania have shown the advantages of distance education methods. In their assessment of the impact of the Tanzania Radio Study campaigns, Hall and Dodds (1974: 48) observed that:

> 'The last part of this story of radio study group campaigns in Tanzania speaks for itself. To have brought about an average 20% increase in knowledge of vital health practices amongst two million citizens needs no justification. At the same time to have caused a vast increase in the building and use of latrines all over the country is a practical achievement such as few educational campaigns can boast.
>
> The worth of these campaigns is also proved in several additional compelling ways. First the method has proved its effectiveness in reaching large numbers of people in rural areas who have previously not been reached by either formal education or traditional adult education approaches. As an educational approach it offers a practical alternative to the traditional student-teacher relationship'.

Chale (1995) stated that the adoption of distance education in Tanzania can be justified in terms of the extent to which distance learning programmes have broadened access to education for numerous groups of people in remote and/or dispersed rural areas and for those who have no access to formal education. The following provide evidence of this.

- The Ministry of Education and Culture (1990) recorded 35,025 primary school teachers who had obtained their professional qualifications/certificates through distance learning (see also Chale, 1992).
- In 1992, the Institute of Adult Education claimed to have reached over 80,000 students through the National Correspondence Institution (NCI) (Chale, 1995).
- The Cooperative Education Centre, which became the Cooperative College Directorate of Field Education in 1993, recorded 50,000 students by 1992 who had been enrolled for the book-keeping and management courses, and more than 1,000 study groups had completed study-group courses (Dodds, 1996).

Over the years, correspondence courses have shifted from being the core activity of IF-Tanzania to a secondary activity. IF-Tanzania has, however, accumulated a wealth of experience in distance learning which has great potential, in a country like Tanzania, to offer educational opportunities to those who would otherwise not gain access to or could not afford such training. Indeed, over the years, many farmers and rural professionals (extension workers, primary-school teachers, development project staff and so on) have enrolled in the correspondence courses. But the experience of IF-Tanzania has not been systematically analysed, apart from one evaluation study (Mkombe and Mhando, n.d.) which was of very limited scope.

3 METHODOLOGY OF THE STUDY

3.1 Purpose and objectives of the study

The purpose of this study was to analyse the experience of IF-Tanzania in offering correspondence courses. This was analysed in terms of pedagogical effectiveness, appropriateness and sustainability of the approach, as well as the factors which have influenced the effectiveness of the approach.

The specific objectives of the study were to:

- determine the origin and historical development of the correspondence programme
- determine the operational procedures, media and methods for developing and delivering the correspondence courses.
- describe the institutional context of the correspondence courses – the organisational structure, governance, institutional status and institutional inter-relationships of IF-Tanzania.
- assess the human and other institutional resources of IF-Tanzania with respect to the correspondence courses
- determine the nature of the clientele for the correspondence courses, in terms of numbers, personal and socio-economic characteristics
- determine the appropriateness of content, effectiveness of media, retention and impact of the correspondence courses.

3.2 Target population

The target population for the study was all those who were active, or had been actively involved, in the IF-Tanzania correspondence courses, as learners, government and NGO staff, as well as IF-Tanzania trainers.

3.3 The sample

IF-Tanzania correspondence courses cover the whole country. However, it was not practically possible to have a sample representative of all the areas of the country. Rather, a decision was made to cover those areas close to Morogoro and Dodoma and to select four districts – Mpwapwa and Kongwa Districts in Dodoma Region, and Kilosa and Morogoro Rural in Morogoro Region. These districts were deemed to contain:

- trainees who had finished a full course
- trainees who had dropped out
- trainees who were still enrolled
- trainees who had the benefit of the correspondence courses as well as close follow-up from IF-Tanzania staff
- trainees who did not have the benefit of close follow-up from IF-Tanzania staff.

3.4 Data collection

Several methods were used to collect the relevant data:

- documentary analysis of trainees' records at the IF-Tanzania office to assess the numbers and characteristics of the learners, and the nature and appropriateness of the correspondence training materials.
- analysis of several other documents including budgets and various reports
- interviews with staff and management of IF-Tanzania, mostly to verify information obtained from farmers and from the various records
- interviews with government agricultural extension staff and NGO project staff
- interviews using a structured questionnaire and focus group discussions with a sample of former and current participants in the correspondence courses.

4 INADES-FORMATION, TANZANIA: INSTITUTIONAL FRAMEWORK

INADES-Formation is a network of national NGOs based on membership associations and which are linked together to an international head office in Abidjan, Ivory Coast. Although each national association must operate according to the demands of the local situation, they are bound together by a common philosophy and vision. IF started its activities in Tanzania in 1989, under the auspices of IF-Kenya. In 1994, IF-Tanzania was legally registered as a national NGO backed by a national association of individuals concerned with rural development.

The main objective of IF-Tanzania is to contribute to the development of the rural people through non-formal training including correspondence courses, field workshops, visits, training projects and so on, based on the philosophy of self-advancement of the rural people themselves. The general aim of IF-Tanzania, as stated in the constitution, is '... to work for the social and economic development of the people of Tanzania, with emphasis on the people's own free and responsible participation in the transformation of their societies in which they live'.

4.1 Organisational structure

The IF-Tanzania National Association is currently made up of 20 members as follows:

- development workers (8)
- IF-Tanzania staff (3)
- farmers (4)
- farmer organisations (1)
- academics (1)
- government workers (1)
- others (2).

Policy decisions are made by a Board of Directors elected from among the members. The Board is also responsible for approving the annual budget, annual reports and identifying possible revenue sources.

Day-to-day operations are carried out by a Managing Director, technical staff in the form of trainers and senior trainers, as well as support staff including secretaries, computer operators, clerks, messengers and watchmen.

Within the trainers' team, each trainer co-ordinates at least one training project. However, through monthly trainers' meetings, staff meetings and quarterly internal workshops, a strong team spirit has been forged among the members.

The Members' General Assembly, as the supreme decision-making body of the association, and the Board of Directors also have an input into the technical matters of the National Office, particularly during discussions on annual plans, budgets and reports prepared by the staff.

4.2 Staff capacity

The organisation has seven senior trainers (including two women) in various disciplines, as well as the Managing Director (an expatriate), the Chief of Administration and Finance, and a variety of support staff, all employed on a permanent basis. Within the professional team there are five post-graduates, three graduates and one advanced diploma holder.

The senior trainers are responsible for implementing the training activities, while the Managing Director is responsible for the overall functioning of the organisation, and for liaising with donors and other outside bodies. The Chief of Administration and Finance is responsible for all the administrative and financial management of the organisation.

The staff have worked in the organisation for an average of five years (the longest has worked there for 11 years and the shortest for one year).

4.2.1 Correspondence course staff

With regard to the correspondence courses, two senior trainers and one clerk have been assigned to this task, in addition to their other responsibilities. The main task of the clerk is to receive applications, and to keep proper records of all trainees, as well as to mail all the necessary materials to the trainees. He is also responsible for ensuring that there is adequate stock of all the training materials. The clerk also does all the mailing, as well as other general office duties.

The senior trainers are mostly concerned with marking the assignment sheets and preparing comments for the trainees. Because they are now not able to spend adequate time on this task, two external markers (one for the Agricultural course, and another for the Management course) have been contracted to mark the assignments. They do most of the marking, after which the senior trainers cross-check them before they are mailed to the trainees. Thus, minimal staff time is devoted to correspondence education, just sufficient to ensure that IF-Tanzania can respond to training requests, particularly from its collaborators.

4.2.2 Professional development

The organisation has a vigorous professional development programme for its staff, through various in-house and external short-term training. The quarterly internal workshops are extremely important for they allow all staff to reflect on the impact of their work, and how to improve it so as to fulfil the IF-Tanzania mission. During the internal workshops staff learn from each other by sharing experiences and discussing policy guidelines from head office or experiences of other organisations.

The IF Head Office also organises regular courses for staff from various IF national offices, on topics which are considered important and of common interest to all IF staff. Altogether, a total of 189 person days (seven per cent of the total) were spent in staff development activities in 1998 (INADES-Formation-Tanzania, 1998).

This process of professional development has enabled staff not only to acquire the necessary skills, but to share a common philosophy and to have a high level of commitment to the mission of IF. However, it is notable that no single programme has been organised to improve the knowledge and skills of staff in distance education.

4.3 Institutional collaboration

IF Head Office in Abidjan provides material and moral support to IF-Tanzania. It provides much of the operational guidance and forms an important link to donors. The relationship between IF-Tanzania and the IF Head Office is governed by a Memorandum of Understanding which details the role and responsibilities of each organisation, with the understanding that, although IF-Tanzania is a legally autonomous organisation, it has certain obligations by using the name and logo of INADES-Formation.

IF-Tanzania has also managed to develop direct relationships with various donors who support its work. The most important partners are:

- BD (Broederlejk Delen) of Belgium
- Bilance of the Netherlands
- Intermon of Spain
- Misereor of Germany
- UNDP.

Most of these donors are funding specific training projects, while others are funding the general budget of IF-Tanzania. However, there is no donor who is specifically funding the correspondence courses.

Nationally, IF-Tanzania has no institutional links to other organisations, although it collaborates with several organisations, mostly NGOs, for particular activities. Most of these organisations have come to appreciate the experience of IF-Tanzania in working directly with farmers' organisations and the usefulness of the training materials which have been developed for training farmers (both for the correspondence courses and for the training projects). It is generally acknowledged that there is no other organisation in the country which produces such a diversity of relevant and appropriately targeted materials for farmers. For this reason, many NGOs are seeking the collaboration of IF-Tanzania to co-produce materials for their projects.

IF-Tanzania receives requests for the correspondence courses from individuals or groups who have been referred to IF-Tanzania by these NGOs. Thus the role of the collaborators as far as the correspondence courses are concerned is to publicise them, to facilitate communication with participants, occasionally to follow-up and motivate participants, and even in some cases to sponsor them to participate in the courses.

Some of the most important collaborators currently are:

- COOPIBO Projects
- Moshi Cooperative College - Dodoma Wing
- DONET (Dodoma Network of Environment)
- FTPP – Dodoma (Forest Trees and Peoples Programme)
- GENDOR (Gender Network for Dodoma)
- KIMVI Rural Development Training Centre
- LVIA (Lay Volunteers International Association)
- MIGESADO (Dodoma Biogas Project)
- PLUM (Participatory Land Use Management)
- TIP (Traditional Irrigation Project) Mpwapwa
- FARM– Africa
- TVPN (Tanzania Vegetables Production Network)
- MVIWATA (Tanzania Network of Farmers' Groups)
- UMADEP (Uluguru Mountains Agricultural Development Project).
- various churches.

IF-Tanzania formally collaborates with the Ministry of Agriculture and Cooperatives on only one project – the PFI (Promoting Farmer Innovators) Project, which is funded by UNDP, and for which the Ministry nominated IF-Tanzania to be the implementing agency. Apart from this particular case, collaboration with government organisations is virtually non-existent.

Where IF-Tanzania works to back up farmers' organisations through specific training projects, the main collaborators are the farmers' organisations, in the form of groups, and local networks of groups, as well as cooperatives, villagers and development projects. Some of these groups have also enrolled in the correspondence courses, and they benefit from both the training projects as well as the correspondence courses.

4.4 Funding sources

The bulk of the funding for IF-Tanzania activities come from donors who channel funds either directly to IF-Tanzania, or through IF-Head Office. The other sources of funds – annual subscriptions of Association Members (currently Tshs 1,200 equivalent to US $ 2 per year) and of trainees (currently TShs 1,000 per trainee for the Agricultural Training course and Tshs 4,500 for Management for Development Workers, and TShs 20,000 per project) form an insignificant source of revenue.

Donor funds are therefore used to cover all the necessary costs of running the organisation, as well as supporting all the training activities. During 1997/98, the income for IF-Tanzania was as shown in Table 1. This shows that funds raised through charging of fees for services, membership subscriptions and sale of training materials account for less than 10 per cent of the total income, while 90 per cent of the total budget is contributed by donors.

In terms of expenditure, of the total Tshs 78,362,019 spent as direct training costs in 1997/98, only Tshs 3,439,330 or four per cent was for correspondence courses. This was mostly in terms of the staff costs, transport, stationery and postage of materials. The amount of Tshs 1,000,000 raised from subscription fees and sale of books can only cover about one-third of these costs.

4.5 Summary

Thus, IF-Tanzania is a legally recognised institution which is based on a membership association, fully registered as an NGO under Tanzanian laws. It has a fully operational office, a clear sense of mission, and a team of professional staff to enable it achieve its mission. However, its operations are still fairly limited in terms of geographical coverage, and it is still largely donor-dependent.

5 THE INADES-FORMATION CORRESPONDENCE COURSES

The purpose of the correspondence courses is to transmit knowledge, and information to a varied and relatively important target group at relatively low costs. The correspondence courses have the advantage of enabling trainees to remain in their home environment and to continue with their usual business, which of course is supposed to improve. The

Table 1: IF-Tanzania's income 1997/8

	Tshs	%
Grants from donors	116,650,000	90
Grants through the Head Office	1,350,000	1
Subscriptions and sales	1,000,000	1
Fees for services	8,000,000	6
Other sources	2,000,000	2
Total	129,000,000	100

Table 2: IF-Tanzania's correspondence courses

Course	Primary target group	Secondary target group	Minimum qualifications
1. Agricultural Training	Farmers, extension staff	Primary school teachers, farmer trainers, rural youth, other interested people	Primary level education; literacy in the Swahili language
2. Management for Development Workers	Development workers in government or NGO projects, village and other local leaders, extension workers	Trainers, religious leaders, government officials	Secondary level education, literacy in the English language
3. *Uongozi wa Maendeleo* (Leadership and Development)	Leaders of farmers' organisations and co-ops, village leaders	Extension workers, teachers, development workers	Primary level education, literacy in the Swahili language

approach offers more flexibility than formal training – for example, trainees can start at any time of the year, study at their own pace and customise their programme of study.

At the time of the study IF-Tanzania ran three correspondence courses:

- Agricultural Training (in Swahili; including animal production and environmental conservation)
- Management for Development Workers (in English)
- Leadership and Development (in Swahili).

5.1 Target audience

Table 2 shows IF-Tanzania's three correspondence courses, their target audiences and minimum qualifications. IF-Tanzania has relied mostly on the self-definition of the applicants, for which there is usually no means of verification. This lack of a strict vetting/screening procedure leads to a high drop-out rate because often applicants make false claims as to their job or qualifications and, on receiving the materials, discover that they are not of an appropriate level or are not within their field of interest.

Individuals or groups apply through a special form for a particular course. Once they have been accepted a card is kept at the IF-Tanzania office, and the trainee is formally registered.

5.2 Enrolment and learner characteristics

An analysis of the learner characteristics was done from data obtained from the enrolment cards kept at the IF-Tanzania office, and from the responses to questionnaires administered to 80 trainees as well as from opinions expressed during focus group discussions.

An analysis of the enrolment cards for 1997, 1998 and 1999 indicated that a total of 651 learners had enrolled in the correspondence courses nationally: 223 in 1997; 264 in 1998 and 154 in 1999. Out of these, the majority were enrolled in the Agricultural Training

80

Table 3: Numbers enrolled in the correspondence courses 1997-1999

Course	Number enrolled	Per cent of total enrolment
Agricultural Training	405	62.3
Leadership and Development (Swahili)	200	30.7
Management for Development Workers (English)	46	7.0
Total	**651**	**100**

Table 4: Occupation of learners

Occupation	Number enrolled	Per cent of total
Farmers	452	69.4
Development workers	17	2.6
Others	182	28.0
Total	**651**	**100**

Table 5: Age of learners

Age	Number	Per cent
Under 20 years	56	8.6
20-45 years	528	81.1
Over 45 years	67	10.3
Total	**651**	**100**

course, and the minority in Management for Development Workers.

Trainees came from all the districts in the country, although with some variation in the numbers from each district, with Dodoma (Urban) – where the IF-Tanzania Head Office is situated – having 123 trainees, and Kati District in Zanzibar Island having only one trainee.

The records showed that 499 (76.7 per cent) were males. The majority of the trainees were involved in farming; a small minority described themselves as development workers. The rest were a mixture of other professions, mostly primary school teachers, and unemployed youth eager to improve their chances of employment.

It is highly likely that some of those recorded as involved in farming were also involved in development activities – as village leaders, leaders of farmers' groups, primary school teachers, extension workers and so on. It is quite common for rural people to be involved in agricultural activities either as a primary or secondary activity, and they may have been enrolled because they wanted to improve their agricultural practices. The majority of the

Table 6: Detailed socio-economic characteristics of learners (from questionnaire)

Variable	Number	Per cent
Gender		
Male	51	64.2
Female	29	35.8
Age		
Under 20 years	0	0
20 – 45 years	59	73.9
Over 45 years	21	26.1
Educational level		
Below primary	0	0
Primary	52	65.2
Above primary	28	34.8
Marital status		
Single	3	3.8
Married	74	92.4
Divorced	3	3.8
Occupation		
Farming (crops only)	34	2.69
Farming (crops and livestock)	40	50.0
Salaried employment	6	7.4
Farm size (estimated)		
Under 2 ha	24	29.9
2 – 4 ha	31	39.1
Over 4 ha	25	31.0
Crops grown		
Maize	76	94.4
Sunflower	52	64.8
Groundnuts	60	75.9
Bananas	9	11.1
Cowpeas	19	24.1
Bambara nuts	14	16.7
Cassava	11	14.8
Beans	16	20.4
Vegetables	26	33.3
Sweet potatoes	20	25.9
Sugar cane	11	14.8

trainees are in the most active farming age group, between 20 and 45 years old.

5.3 Detailed socio-economic characteristics

The detailed socio-economic characteristics of the trainees were determined from the responses to questionnaires administered to 80 trainees from Chamkoroma, Chisalu, Tubugwe and Mbori villages in Mpwapwa District; Magubike and Kiegea in Kilosa District; and Mkoka in Kongwa District.

Thus, similar to the national situation, the majority of the trainees in the study area were males, and were between 20 and 45 years of age, which is the most economically active age group.

All the respondents had completed at least seven years of primary education and so were literate. About one-third had post-primary qualifications, mostly secondary education, and in a few cases had obtained some professional qualifications. In principle, therefore, all the respondents were able to follow the Swahili course materials, as they were all literate in Swahili.

The vast majority of respondents were married, and were mostly farmers involved in crop production or crops with some livestock production . The main crops grown were maize, sunflower and groundnuts. Cattle and goats were the major livestock kept, while chicken and ducks were kept on a very small scale.

The farmers operated very small farm plots, usually scattered in several areas within the villages, depending on the crops to be grown. When the various plots are combined, the estimated farm size is typically around two to four ha. In this case, about one-third of the respondents had less than two ha, while about one-third had more than four ha.

The respondents therefore represent the typical Tanzanian small-scale farmer fairly accurately. Those who were not farmers were primary school teachers and trainers at a Folk Development College, community development assistants and village extension officers.

5.4 How trainees had heard about the correspondence courses

Most of the trainees had learned about the courses through seminars organised by IF-Tanzania and through the IF-Tanzania staff themselves, while a few got information from friends.

5.5 Why trainees enrolled on the correspondence courses

The respondents were asked to indicate their reasons for enrolling on the correspondence courses. Many of them were interested in improving their general education, technical skills, leadership skills, or their agricultural production.

5.6 Structure of the courses

The courses are prepared in sets of booklets, each set corresponding to one stage of the course. Except for the English Management course, where the series of booklets are fixed, trainees have the freedom to choose, sometimes with the advice of IF-Tanzania trainers, which combination of booklets to use at each stage of the course.

In addition to the basic booklets, IF-Tanzania has also developed, for many of the topics, accompanying materials in the form of technical notes, farmers' stories, cartoon strips, posters and leaflets. There are also other booklets which are used primarily in the training projects, but which are made available to correspondence course trainees when deemed necessary.

Table 7: Sources of information about courses

Source of information	Number	Per cent
IF-Tanzania seminars	25	31.5
Friends	12	15.0
IF-Tanzania staff	21	16.0
No Answer	22	27.5

Table 8: Reasons for enrolling on the courses

Reason for enrolling	Number	Per cent
Improve general education	18	22.2
Improve leadership skills	21	15.9
Improve technical skills	31	38.9
Improve agricultural production	24	29.6

Table 9: Composition of the correspondence courses

Course	Number of stages	Number of booklets per stage	Total number of booklets available
Agricultural Training (Swahili)	3	9	31
Management for Development Workers (English)	10 (units)	1 per unit	10
Leadership and Development (Swahili)	3	7	22

No effort is being devoted to updating or producing more basic texts for the correspondence courses, because of the shift away from this training approach.

5.7 Learning approach

A trainee is supposed to study a set of, say, nine booklets, one after another, which represent one stage. On enrolment, the trainee is sent the first two booklets, each with an assignment sheet (a set of questions which the trainee must answer and send back for marking, together with written feedback on the booklet, questions which the trainee may have, relevancy of the information to his/her circumstances and any other comment), and any supplementary material. The trainee must score at least 50 per cent in the assignment sheet before being sent the next booklet. Once the set of booklets has been completed, the trainee is issued with a completion certificate for that stage, and applies to enrol in the next stage. There is no formal qualification assigned on completion of the course.

There are three approaches which are recommended for studying the materials.

- Individuals may enrol and study the materials individually at their own pace.
- Individuals may enrol individually, but study the materials in a group and respond to the assignment sheets individually.
- A group of illiterate learners may team up with one or more literate learners and study the materials and respond to the assignment sheets collectively.

Although IF-Tanzania encourages group study, the individual study method remains by far the most popular approach. Trainees have pointed out the difficulties of group study as being:

- difficulty of agreeing on times to meet
- differences in ability and speed of learning
- divergences in interests
- logistical problems of meeting (distances between learners, and so on).

IF-Tanzania has not developed any guidelines to assist trainees to organise themselves and study as a group. Presumably, had such guidelines existed, the group study approach would have been used more effectively.

5.8 Tuition and support

In principle, IF-Tanzania trainers are supposed to organise visits to trainees to explain parts of the booklets which are unclear, to make practical demonstrations of some of the recommended practices and to check how far farmers have implemented the recommendations. This is also an opportunity to solve any administrative problems such as loss of booklets, use of incorrect addresses and so on.

However, in practice, these visits are rarely conducted, and trainers rely on written feedback which trainees record on the assignment sheets. Learners rely almost entirely on the printed materials as their source of information, since IF-Tanzania Trainers are not able to maintain a close follow-up of the trainees or to support them in any other form, other than suggestions which may be provided on the assignment sheets.

In addition, although the learners are at liberty to consult other more knowledgeable farmers or extension staff in the area regarding their study materials, so far there has not been any formal arrangement to allow or encourage the extension workers to work with and offer support to the trainees. In short, the IF-Tanzania training programme and the extension programme of the Ministry of Agriculture run as separate and parallel programmes, although there is much more congruence between IF-Tanzania programmes and the extension activities of NGOs, who tend to share the same philosophy.

5.9 Monitoring and evaluation

Trainees are expected to take between six and 15 months to complete one stage of the course. The progress of the trainee is monitored by means of the record card, kept at the IF-Tanzania office, on which are recorded the dates of enrolment, when booklets are sent out, when assignments are received, and when they are sent out to the trainee again. Every three months the office goes through all the record cards, all the trainees who have not done any assignments during the last three months are sent reminders. After three reminders, or nine months of inactivity, the trainee is officially considered a drop-out although he/she is free to resume studies at any time.

The comments and the performance on the assignment sheets remain the only means of monitoring the performance of trainees, particularly those from far-off places where IF-Tanzania trainers have no possibility of visiting. In addition, no major formal evaluation has been done on the impact of the correspondence courses. Relying exclusively on the feedback of trainees has its own limitations.

- It is difficult to ascertain whether the trainee's answers reflect his/her understanding or were supplied by someone else.
- There is no means of cross-checking whether the trainee is implementing the ideas in the study materials.
- There is no opportunity for practical demonstrations (especially of agricultural practices) or for exchange of experiences between trainer and trainee to deepen the understanding of the materials.

6 MEASURING SUCCESS

6.1 Learners' assessment of the correspondence courses

Respondents were asked to give their views on how they assessed the courses. Their responses are summarised in Table 10. Very few of the trainees thought the courses were difficult, half of them thought that the courses were of average difficulty, while just over one-third thought that the courses were easy to follow. An overwhelming majority saw the courses as relevant (89 per cent) and useful (91 per cent).

Most of the respondents thought the cost of enrolling in the courses was quite affordable, with about 40 per cent indicating that the courses were inexpensive, and 54 per cent indicating that they were of reasonable cost. Typically, the cost of covering one stage was less than Shs 3,750 or US $5, which included the subscription fee and the postage of materials back to the IF-Tanzania office.

Most of the respondents felt that the time demand of the courses was acceptable - very few thought that the courses were time consuming.

6.2 Students' criticisms of the correspondence courses

It would appear that the courses are appropriately targeted to the typical small-scale farmer in the rural areas. However, trainees had some criticisms of the way the correspondence courses were being conducted.

6.2.1 Media

The major criticism concerned the teaching medium of the courses, which rely on printed booklets and other printed material only. Trainees were of the opinion that this medium by itself was inadequate, and that it should be supplemented with more face-to-face contact in the form of training workshops, as well as by radio programmes.

6.2.2 Evaluation of trainees

Many trainees were of the opinion that the assignment sheets by themselves were not adequate to judge the understanding of the materials by the trainees. The sheets may be filled simply by copying the materials from the booklets, which means trainees may provide correct responses without necessarily understanding the material.

6.2.3 Inadequate follow-up by IF-Tanzania trainers

Only a quarter of the trainees felt that they were receiving adequate support from the trainers. Most felt that the lack of close follow-up of trainees by IF-Tanzania trainers was an important reason for the high drop-out rate, or the slow pace of some of the trainees. In addition, the lack of face-to-face contact with trainers meant that trainees could not consult them when they were stuck or needed additional explanation on a particular issue.

Table 10: Learners' ratings of correspondence courses

Variable	Number	Per cent
Level of difficulty		
Difficult	10	13.0
Average difficulty	40	50.0
Easy	30	37.0
Relevance		
Relevant	71	88.7
Somewhat relevant	5	6.2
Not relevant	4	5.1
Usefulness		
Useful	72	90.7
Somewhat useful	2	1.8
Not useful	6	7.5
Cost		
Inexpensive	33	40.7
Reasonable cost	43	53.7
Expensive	4	5.6
Time required		
Not time consuming	35	44.4
Reasonable time	28	35.2
Time consuming	2	1.9
No opinion	15	18.5

6.2.4 Lack of publicity for the correspondence courses

While many farmers thought the courses were very relevant and useful, they felt that IF-Tanzania was not doing enough to publicise them and to mobilise other farmers to enrol on them. The general feeling is that many of the ideas contained in the courses would make a significant impact if they were widely known and widely adopted, and that a handful of trainees in the village cannot make a big difference in the status of small-holder farming in the rural areas. Trainees saw the need to link this training to a more broad-based extension programme aimed at improving the agricultural productivity of the whole community.

6.2.5 Insistence on group study approach

Nationally, with the trainees enrolled between 1997 and 1999, 60 per cent are enrolled individually, while 40 per cent are enrolled as members of groups. However, the trainees interviewed indicated that the group study approach did not work because of the practical difficulties of meeting – trainees have different work routines, different interests and different levels of understanding; they join in at different times, and sometimes do not even know each other. As such, unless IF-Tanzania

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Table 11: Completion rates 1997-1999

Status	**Number**	**Per cent**
Completed all stages	22	3.4
Still studying	318	48.8
Dropped out	311	47.8
Total	**651**	**100**

puts more thought into organising such study groups, it will be very difficult to sustain them.

6.3 Completion rates

Nationally, completion rates of the 651 learners enrolled between 1997 and1999 are as shown in Table 11.

The completion rate is therefore very low, while the drop-out rate is almost 50 per cent, where this is defined as the inability to complete an assignment sheet within nine months. During the interviews, trainees agreed that drop-out rates were very high and mentioned the following reasons:

- long turn-around time between the time they sent assignment sheets to IF-Tanzania and the time they received feedback (35.2 per cent)
- lack of time due to other commitments – for example, farming, illness in the family, getting married (29.6 per cent)

- postal delays and even loss of materials during postage (16.7 per cent)
- lack of visits by IF-Tanzania trainers leading to discouragement (7.4 per cent)
- lack of means for motivating the trainees to complete the materials (3.7 per cent).

Postal delays and losses are serious problems because many trainees use communal postal addresses belonging to a primary school, a church or a co-operative society, where often they are not personally known, or where the materials have to pass through several hands before reaching the addressee. Sometimes these postal boxes are closed for non-payment of fees. Sometimes trainees do not report lost materials for fear of incurring additional costs of ordering new materials.

Trainees indicated that they usually took longer than the recommended time for each stage because of other commitments and lack of time, and in some cases, the lack of incentive to work faster. More frequent follow-up by IF-Tanzania would have resulted in faster completion time, and possibly higher completion rates.

6.4 Impact of the correspondence courses on the learners

Learners interviewed indicated that courses had had some positive impact on how they do things, mainly at the personal level. Some trainees indicated that they were better able to lead their groups, to conduct meetings and to plan their budgets. Others mentioned that they were getting additional income from their horticultural production by producing more scientifically. Another farmer commented that because of the training she had from IF-Tanzania, she was able to qualify for a heifer loan, while another commented that he was better able to run his small business of buying and selling agricultural produce because he knew how to predict and respond to the market.

For some trainees, the courses have served as a springboard to other things – some study groups have evolved into economic groups undertaking various income-generating activities, while other trainees are now recognised as 'master farmers' by their fellow farmers and extension workers, and have played a significant role in training and motivating other farmers to adopt improved practices.

On the other hand, there was also the recognition that for those who had joined just to obtain academic knowledge, there was very little impact for they did not have any idea on how to implement the recommendations contained in the courses. To have impact, the trainees felt, the courses should be linked to a practical activity or a personal goal of improving one's activities, whatever those activities happened to be.

The impact at the community level was seen to be more limited. This was because:

- the number of trainees for each village was too small
- the trainees were rather isolated, each working individually
- there was no significant back-up of the courses from IF-Tanzania or integration with other extension programmes
- there was no material support.

Thus, where the trainees on correspondence courses are few and scattered, it is difficult for such courses to have a significant impact on the communities concerned.

6.5 Demand for the correspondence courses

When correspondence courses formed the main activity of IF-Tanzania, the offering of courses was more supply-driven in that trainers spent much time visiting projects, NGOs, parishes, farmers' associations and co-operatives to 'market' their courses and to motivate farmers and development workers to enrol on them. In addition, publicity leaflets were prepared and mailed to various potential agencies which could recruit trainers on behalf of IF-Tanzania. Announcements were also placed in various newspapers/newsletters aimed at the rural audience – for example, *Mwenge* and *Kiongozi* newspapers produced by the Catholic Church, and *Pambazuko* produced by the Tanzania Network of Farmers' Groups. Thus, publicity ensured many applicants, particularly those who aspired to some form of academic qualification. It also meant that trainees were scattered all over the country, with very little possibility of physical follow-up.

With the change in training approach, IF-Tanzania has now adopted a more demand-driven approach, and no more blanket publicity is conducted. This has led to a progressive drop in the number of enrolled trainees from 910 in 1991/92, to 539 in 1994/95 and 315 in 1998.

Currently, many of the applicants are referred to IF-Tanzania correspondence courses by NGOs or projects (including IF-Tanzania training projects) working with farmers or staff who may potentially benefit from the correspondence courses. In addition, some institutions (NGOs and projects) have requested large quantities of booklets for their target groups – for example, Manguishi Centre in Arusha (200 copies), ADP-Isangati (500 copies), UMADEP (600 copies), AIC-Mwanza (200 copies). However, despite requests from IF-Tanzania, there has been no feedback from any of the institutions on how useful these materials have been.

It is obvious that the number of beneficiaries of the correspondence courses is higher than the enrolment records show. Thus, in the view of the IF-Tanzania staff, the decline in enrolment in the correspondence courses is more a reflection of a deliberate change in strategy rather than a loss of interest by farmers and development workers in these courses.

6.6 Trainees' suggestions for improvement

Trainees offered several suggestions which, in their opinion, would improve the effectiveness of the correspondence courses. The most frequent suggestions were to:

- increase follow-up visits by IF-Tanzania trainers (35.2 per cent)
- use agents who would distribute the materials as well as mark the answer sheets on behalf of IF-Tanzania staff (33.3 per cent)
- improve communication, so as to minimise delays in the despatch/receipt of course materials (25.9 per cent)
- include practical demonstrations in the training programmes (9.3 per cent)
- develop follow-up courses and include new topics (9.3 per cent)
- include study tours for trainees (seeing is believing) (7.4 per cent)
- link trainees to sources of credit and other forms of support so that they can implement recommendations from the courses (5.6 per cent)
- put more emphasis on working with farmers' groups (5.6 per cent)
- use other media as well, including radio, farm magazines and training seminars/workshops (3.5 per cent)
- issue certificates recognised by the government (3.5 per cent).

7 CONCLUSIONS

Correspondence courses have been effectively used in professional areas, where trainees have used them to acquire recognised professional qualifications. The attainment of a professional qualification (in the form of a recognised certificate) is an important incentive to undertake such training largely unsupervised.

In non-formal education, where no formal qualifications to be gained, such an incentive is not present. The motivation to persevere with such training must of necessity come from expected practical benefits of participating in such a programme. Where such benefits cannot be demonstrated, either before or during the programme, the motivation to participate is low. This is reflected in low completion rates and high drop-out rates.

A way to overcome this is to have a high follow-up rate, whereby trainers work closely with trainees to guide, and motivate them to go on. The dilemma is that this approach would negate the notion of correspondence courses being less costly than other forms of training, particularly since the trainers can only cover a small group of trainees with intensive follow-ups. This is indeed the dilemma which faces IF-Tanzania – to open up or close the correspondence programme.

The long history of correspondence education for professional advancement has also meant that some trainees perceive any correspondence programme as a programme for professional improvement, particularly where other, more conventional, professional development programmes are not readily available. From some of the suggestions given by the trainees, it is obvious that they would like to see the IF-Tanzania programme of correspondence courses geared more towards satisfying professional needs, rather than being a programme for assisting farmers and other rural development workers to do whatever they are doing better. Such pressure is likely to intensify during these times of liberalisation of the labour market.

One of the reasons why correspondence courses have been accepted by the farmers and rural development workers is because they are affordable. This, however, means that someone else is bearing the real costs of the courses. In this case, most of the costs are being borne by external donors, which calls into question the long-term sustainability of the approach. The issue is whether the intended target group can meet the full costs of the courses if asked to do so. This is the case with many professional courses, where professionals can afford to pay the full cost courses themselves.

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Chapter 5

UGANDA: DISTANCE EDUCATION PROGRAMMES OF THE MINISTRY OF HEALTH

Juliana Bbuye

1 BACKGROUND

The Ministry of Health in Uganda runs a Health Manpower Development Centre situated in Mbale in Eastern Uganda. The centre was established in 1985 and is responsible for the training needs of Health workers in Uganda. The health workers include doctors, nurses, health inspectors, medical assistants, traditional birth attendants and nursing aides. The health workers acquire skills and knowledge during their preparatory conventional courses. However, over time such skills and knowledge become inadequate and sometimes obsolete, partly as a result of the dynamic changes that occur in medical care and the constant introduction of new drugs. The health workers therefore require retraining to cope with their work and to assist in the dissemination of knowledge and skills to their clients (patients). This continuing education is best offered through non-formal methods.

The aim of the Health Manpower Development Centre is to upgrade on-the-job workers of different cadres and levels of training. There are about 11,054 workers in 95 government and NGO hospitals, 96 health centres and 907 dispensaries and sub-dispensaries according to Omwanganye (1998b). The goal is to build human resource capacity at all levels without disrupting the delivery of services to clients.

1.1 Socio-economic context of the study

Uganda, situated in East Africa, is among the least developed countries in the world. Its surface area is 241,000 square kilometres, with a population of 21 million which is growing at a rate of 2.8 (see World Bank, 2000).

Prior to the 1970s, Uganda was characterised by political stability and high rates of economic growth. Its health system was described as the best in Sub-Saharan Africa (World Bank, 1993). Since 1970, however, Uganda has had a history of political insecurity, civil war and economic decline, and is currently among the least developed countries in the world.

As a result education has suffered, with inadequate provision for school-age children. 40 per cent of school-age children do not go to school at all, while many of those entering primary schools are much older. About 60 per cent of those who enter primary school drop out without completing the primary cycle, and about 90 per cent of those who complete the primary cycle do not proceed to secondary schools. According to the Government White

Paper (1992: 10) the government is fully aware of, and gravely concerned about, the situation.

The structure of the health system, made up of a network of health centres and smaller units, still exists in Uganda, but with inadequate facilities and personnel. During the military rule of Idi Amin Dada (1971-1979), many Asian health professionals left Uganda following the declaration of the economic war, which forced them out of the country.

The country's insecurity and decline in economic productivity continued to lead to a brain-drain of trained Ugandans in all fields, leaving a gap in the economic and social welfare in the country. The performance of the health personnel who remained in the country deteriorated due to poor pay, lack of supervision for maintenance of standards and progressive deterioration of the training institutions (Bukenya, 1998).

The socio-economic constraint of the declining economy also led to the emergence of 'pseudo health workers', who had very little knowledge and skills in the health field, who filled the gap left by health professionals who had fled the country. Ward maids and dressers, for example, used the rudimentary knowledge they had picked up, and offered a service quite below acceptable standards.

The fall of Idi Amin in 1979 did not immediately lead to political stability. The relatively peaceful rule of Yoweri Museveni from 1986 to the present brought about socio-economic recovery. Despite the high rate of economic growth, however, the social sector still needs support. The social indicators of growth are still below World Bank requirements. The fertility rate is 7.3, the crude death rate is 20 per 1,000, and is elevated by AIDS. The school enrolment rate is 74 per cent of children of primary school age. Of these, 65 per cent are boys and 35 per cent are girls (World Bank, 1993). (The enrolment has slightly increased, however, since the declaration of Universal Primary Education in 1997.) The illiteracy rate among the female population is still comparatively high. In 1998, 46 per cent of females of 15 years and over were illiterate, compared to 24 per cent of males of 15 years and over.

The poor social indicators are a reflection of a low level of human welfare and resources, which Uganda must alleviate by investing in people in order to achieve sustained long-term growth. According to the Ministry of Health (1997: 46):

> 'The underlying problem of Uganda is the serious dilapidation of its health system – the state of disrepair, the infrastructure, the low levels of key professional personnel and the return to high levels of controllable diseases all of which call for a re-building of the system.
>
> There is high infant mortality rate (97:1000), low life expectancy (45 years), high maternal mortality and unreduced endemic diseases.'

Uganda's performance in the health sector, therefore, is greatly affected by the country's low income and low domestic resource mobilisation. The resources available to meet the urgent social challenges are limited, and are greatly affected by the measures of the Structural Adjustment Policies, introduced to alleviate economic decline in Sub-Saharan Africa. These measures, for example, forbid the operation of a deficit budget.

In addition, the economic recession and growing debt burdens mean that insufficient emphasis is placed on education and health. This has greatly affected the operation of the formal and non-formal education sectors of which the Health Manpower Development Unit is a part.

Thus whereas the process of structural adjustment has supported the improvement in economic conditions, some parts of the population, particularly those in rural areas, have not benefited from the economic growth of the past decades.

The Ugandan government public expenditure budget falls short of the many urgent public demands, including that of providing free primary education to four children per household. This has greatly affected the share of public expenditure available for health. The government spends US $2 per person per annum in this area. The private expenditure therefore outweighs government expenditure on all health services.

The continuing education budget for both conventional and distance training for the Ugandan Ministry of Health is small taking into account Ministry of Health policy. Among the long-term priorities of the Ministry of Health, however, is continuing education for all health workers, particularly those in rural areas. Continuing education is mostly non-formal, to enable health workers to study as they work.

Conventional training is also inadequate. Although the Ministry of Health offers several training opportunities in its training institutions spread all over the country, the numbers admitted are very small, as indicated in Table 1.

With a population of over 20 million people in Uganda the number of personnel prepared for health services in the country is clearly inadequate.

1.2 Current health situation in Uganda

A survey of the current health situation in Uganda clearly indicates a need for training of healthcare workers as well as members of the public.

The Draft Health Policy document (Ministry of Health, 1996: 13) indicates that in Uganda ten well-known and largely preventable diseases account for around 75 per cent of life years lost to premature death. The following alone account for 60 per cent:

- parental and maternal related conditions (20.4 per cent)
- malaria (14.4 per cent)
- pneumonia (10.5 per cent)
- AIDS (9.1 per cent)
- diarrhoea (8.4 per cent).

If the diseases are preventable, then training of health workers and members of the public helps. Distance learning therefore can play a part because it can reach large numbers, with a limited number of trained tutors.

The Human Development Report (UNDP, 1996) shows a number of development indicators that have had a major influence on health skills in Uganda:

- the process of structural adjustment, which has supported the improvement in economic conditions. However, while many have benefited from this process, there have also been losers and some of the population have not benefited substantially from the economic growth of the past decade
- inequality of income – per capita income in the North remains less than half of that in the Central Districts
- malnutrition, which still affects 23.3 per cent of children
- per cent of population with access to sanitation – 48 per cent during the period 1990-95
- low enrolment rate in education (25 per cent in 1980, 41 per cent in 1990 and 51 per cent in 1992) and low adult literacy rate (41 per cent in 1970, 60 per cent in 1993).

Table 1: Health courses offered by the Ugandan government

Category of course	Course	Intake
Allied health (Paramedical) basic courses	1. Medical Laboratory Technology	10
	2. Radiography	10
	3. Physiotherapy	10
	4. Environmental Health Sciences (Health Inspectors)	25
	5. Clinical Officers' Course (Medical Assistants)	120
	6. Orthopaedic Technology Course	10
	7. Pharmacy Technician Course	10
	8. Orthopaedic Officers Course	10
	9. Public Health Dental Assistants Course	15
	10. Medical Entomology Course	10
	11. Medical Laboratory Technician	15
	12. Environmental Health Assistants	30
Nursing basic course	1. Comprehensive Nursing	40
	2. Registered/General Nursing/Psychiatry/Midwifery	60
	3. Enrolled/General Nursing/Psychiatry/Midwifery	40
	4. Occupational Therapy Training Courses	36
Post basic courses	Health Services Management course	35
	Health Tutors' Course	10
	Horizontal General Nursing	85
	Psychiatry	15
	General Nursing/Midwifery	85
	Public Health	10
	Psychiatric Clinical Officers' Course	10
	Anaesthetic Officers' Course	10
	Ophthalmic Clinical Officers' Course.	10

The quality of government health facilities is low compared to NGO facilities. The latter have a far higher utilisation figure, despite often charging relatively high fees. This is because government facilities:

- are less likely to have drugs and other equipment and materials available when patients attend
- are often staffed by better trained personnel but lack incentives to provide appropriate treatments and diagnosis
- have less convenient opening hours. Absenteeism is rife and key staff are often not in post despite the fact that government staff are better paid than their NGO counterparts.

1.3 Distance education in Uganda

In the past in Uganda, those people who wanted to obtain a General Certificate of Education or a secretarial or accountancy qualification mostly studied by distance education. There is very little documentation on this, though many Ugandans benefited from it.

The use of distance education is now increasing in Uganda. Both formal and non-formal programmes are in place. The Ministry of Education uses radio and television to provide access to quality teaching throughout the country and also to improve methods of teaching.

Short distance education courses, tailor-made to suit particular circumstances and particular needs, are becoming popular.

The most successful formal programmes have been those concerning in-service training for primary school teachers. The Mubende Integrated Teacher Education Project (MITEP) ran from 1991 to 1995, with 830 teachers obtaining a Grade III Teacher Training Certificate. The Northern Integrated Teacher Education Project (NITEP) ran from 1991 to 1998, with 3,000 participants obtaining a Grade III Teacher Training Certificate. Current projects include the Teacher Development and Management Services project (TDMS) which focuses on training untrained and under-trained teachers in rural areas. The Ugandan Government, USAID and the World Bank support this project.

The most active non-formal distance education programmes are those run by the Health Manpower Development Centre of the Ministry of Health. The programmes focus on childcare, AIDS, first aid, environmental health and other community issues. The Centre receives most of its resources from donors (AMREF, Irish Aid, Canadian International Development Agency (CIDA) and the European Community (EC)).

Another non-formal project is the Community-based Child Care Open Learning Pilot Project, which was run by Save the Children Fund, a UK-based charity. This project used mainly printed study materials and focus group discussions. The programme has ceased for the time being, probably because of lack of staff. This programme, though in its infancy, is likely to lead to improved community health and better child-rearing practices.

World Links for Development is another important distance education programme that targets secondary school teachers and students, to use the internet to get access to world-wide sources of knowledge.

2 THE DISTANCE EDUCATION PROGRAMMES OF THE UGANDAN MINISTRY OF HEALTH

In 1979, AMREF carried out a survey to establish the need for training in the health sector in Uganda. This was part of the health rehabilitation programme, after the fall of the dilapidating regime of Idi Amin. AMREF was instrumental in setting up a Distance Education Unit in Uganda following its experience in Kenya. The Distance Education Unit was set up in the Health Manpower Development Centre (HMDC), established to cater for the training needs of health workers in Uganda. The centre is located in Mbale in Eastern Uganda.

2.1 Objectives of the Health Manpower Development Centre and Distance Education Unit

The HMDC aims to provide continuing education or in-service training for health workers as an integral part of their professional development. The overall goal is to improve the health of the people of Uganda through improved performance of health workers.

According to Omwangangye (1998b:3) the aims of the Distance Education Unit are to:

- provide continuing education to health workers through self-directed learning materials
- offer correspondence courses and radio programmes that do not disrupt health workers' work schedules
- supplement other methods of continuing education
- build human resource capacity at all levels of the health sector.

2.2 Target groups

The distance education programmes aim to provide continuing education to health workers who work in government and NGO hospitals, dispensaries, health centres and sub-dispensaries. Specifically these are:

- District Medical Officers, doctors and their teams – nurses, medical assistants, chemists, midwives, clinical officers and nursing aides
- District Health Visitors
- Health Inspectors
- District Assistant Drug Inspectors
- District Officers in charge of control of tuberculosis and leprosy.

2.3 Enrolment

Enrolment is open to all health workers. Each applicant fills in a form, which is assessed by the Co-ordinator at a Co-ordinating Centre. If found to be eligible, the health worker is enrolled and is given an identification number.

As of April 1996, there were 3,287 health workers enrolled on distance education courses, which represented 30 per cent of health workers in Uganda. Of these, 70 per cent were rural health workers working as medical assistants, enrolled nurses, midwives and nursing aides.

By 1998, 5,500 health workers had enrolled since the start of the programme and of these 994 were active learners. The completion rate ranges from 11 to 35 per cent. There are no examinations. Students are deemed to have completed the course if they have completed the course units and attempted the assignments.

2.4 The curriculum

The following courses are offered:

- Child Health
- Community Health
- Communicable Diseases
- Immunisation
- Environment Health
- Management of Rural Health Facilities
- Management of Essential Drugs
- Mental Health
- Family Planning and Healthcare Delivery.

The curricula are developed in workshops attended by health workers, who are based in areas identified by district needs assessments. Most of the courses, therefore, are tailored to the needs of learners in the districts.

2.5 Delivery mode

The principal mode of teaching/learning is print. The relevant course manuals and a study guide for learners are packed and dispatched to the learner. The course manuals consist of course units, and each unit consists of learning objectives, a pre-test, in-text activities, an assignment and a post-test.

The printed materials are developed in workshops, whose members include course writers drawn from the medical field and editors also drawn from the health sector. Officials from the AMREF Distance Education Unit in Nairobi train the members.

The assignments are chosen from a range of options and are not paced. Assignments can be submitted at any time. The learners are supposed to attempt and submit the assignments and send them to a Marking Centre for correction. The pre-test tests the knowledge of the learner prior to embarking on a distance education course, and the post-test evaluates what knowledge and skills the learner has acquired after completing the course.

In addition to printed materials, radio programmes are developed at the Health Manpower Development Centre and are transmitted by Radio Uganda, the national radio. The radio programmes benefit not only learners but also interested health workers and members of the public.

Face-to-face sessions are conducted to supplement the printed materials and radio programmes, and these are organised by the Co-ordinator when necessary.

2.6 Organisation and administration of the distance learning programmes

The National Office of the Health Manpower Development Centre at Mbale is the Co-ordinating Office. The Co-ordinating Office's roles are to:

- initiate distance learning activities in the district in liaison with the Director of District Health Services and ensure implementation of these activities
- lobby for funds to support distance learning activities
- provide training, supervision and advice to staff working within the programme
- write and disseminate reports
- organise the review of curricula and materials
- carry out programme monitoring and evaluation.

District level Co-ordinating Units, headed by the District Medical Officers, are situated in Fort Portal (Kabarole), Kapchorwa, Kasese, Masaka, Mbale, Hoima, Masindi, Kibale and Kabale. Their roles are to:

- provide continuing education in the district using distance learning methods
- initiate distance education activities in the district
- lobby for resources to support the programme
- provide support and supervision for staff in the unit (Tutors and Co-ordinators)
- write and disseminate reports
- ensure the smooth running of the programme in the district by providing support to learners.

2.7 Tutoring and student support

Medical personnel involved in other health worker training activities in district training institutions carry out tutoring. They conduct face-to-face sessions in the districts, mark scripts and support students. Each tutor is supposed to mark a maximum of 500 scripts.

Staff involved in tutoring are continually upgraded in distance education skills to enable them run the programmes properly. This is done through workshops and supervisory visits.

Students take only one course at a time. The following support is offered to them:

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- feedback on assignments by tutors
- visits at their places of work to provide on-site support.
- residential meetings (face-to-face sessions).

The Health Manpower Development Centre undertakes to identify sponsors for residential face-to-face sessions. The funds are used to pay tutors.

2.8 Assessment

The assessment system for the programme is liberal. The participants are given certificates of attendance for each course completed. No grades are given.

2.9 Financing of the distance education programmes

The distance education courses require a lot of initial capital to set them up. Different donors have contributed, and still contribute, to the setting up and running of distance education centres. These include.

- Irish Aid
- Health Sector Support Programme of the World Bank
- United States Agency for International Development (USAID)
- European Development Fund/Rural Health Programme (EDF)
- United Nations Children's Fund (UNICEF)
- Danish International Development Agency (DANIDA)
- Ministry of Health Uganda (support in the form of salaries, housing and recurrent expenditure).

3 THE STUDY

The Ministry of Health Manpower Development Centre in Uganda has been carrying out training of health workers as part of their continuing education using both distance education and conventional methods since 1989. It was important, therefore, to develop a comprehensive documentation of the distance learning programmes in order to show the effectiveness and potential of distance education in upgrading medical personnel as compared to other approaches.

3.1 Rationale

Evaluation is an essential tool for the management of change in any project. Skills training, apprenticeships and non-formal education programmes in areas including health, agriculture, environmental issues, family life and other social issues can be carried out through a variety of methods, one of them being distance education. It was important, therefore, to determine whether distance education was effective compared to other methods. This would be achieved by carrying out an in-depth analysis of the distance education methods used in the continuing education programme of the Ministry of Health.

3.2 Aims and objectives of the study

The aims of this case study were to:

- identify major constraints and problems in the use of distance education in the continuing education programme of the Ministry of Health
- assess the cost-effectiveness of the programme
- assess the pedagogical effectiveness and sustainability of the programme
- establish indicators that will determine the constant monitoring of the programme

- identify changes in practices as a result of improving the training of health workers through distance education.

3.3 Guiding questions

The following research questions provided a framework for the study:

1. To what extent have the aims and objectives of the distance education programmes in place been met, and to what extent have the expected outcomes been achieved?
2. To what extent have the distance education courses benefited health workers?
3. How satisfactory were the media and teaching methods used?
4. How effective were the administration and management procedures?
5. What was the relationship between entry requirements, retention and performance of the learners on the programme?
6. Was there any visible impact of the Health Manpower Development Centre distance education programmes?
7. How was sustainability of the programmes related to local, national and international institutions?
8. Was staff development adequate and effective?

4 LITERATURE REVIEW

4.1 Distance education in Uganda

Distance education programmes are not new in Uganda. Correspondence education has been taking place in Uganda since the 1960s, with many Ugandans enrolling on courses in Britain to obtain General Certificates of Education or accountancy qualifications. There is very little documentation on the organisation and management of those courses, since most of them were done out of individual initiative. Some documentation of distance education courses from the late 1960s is, however, available. Sentongo (1998) reports that, in 1967, **The People**, The Ugandan weekly newspaper, published a four-page Correspondence Education Supplement, containing 30-week courses on communication, elements of government and economics. These were written and administered by the Department of Extra-Mural Studies of Makerere University College, Uganda.

Robinson (1996) points out that in 1969, Mr Albert Kaye was seconded to the Centre for Continuing Education, formally the Extra-Mural Department, consisting of Media, Communication and Correspondence Units, to run teacher training projects using correspondence. The project, Robinson observed, was not well documented, and was not evaluated to any extent, leaving policy makers, planners and teacher educators uncertain as to the achievements and limitations of the project and the lessons learnt from it.

Sentongo (1998) reports that in 1975, the Makerere Intermediate Certificate was introduced and was offered to working adults who wanted to improve their general education. Economics, mathematics and English courses were offered. Another course, the Clerical Entrance Certificate Course, was introduced to assist those who intended to sit for clerical entrance examinations. A Certificate in Adult Studies, Sentongo continues, replaced the Intermediate Certificate, and a full-time Diploma in Adult Studies was also introduced.

The 1990s saw the emergence of a number of distance education programmes, one of which was the Mubende Integrated Teacher Education Project (MITEP). It took place from 1991 to 1995, with the aims of improving the quality of primary education in the Mubende District as well as evaluating the feasibility and cost-effectiveness of distance education in order to assess its worth as a model for replication throughout Uganda. According to the Evaluation Report of this project (Robinson, 1996) the project achieved the following.

- It provided evidence that distance education methods can work for upgrading primary teachers to Grade III Certificate level in Uganda. (34 per cent of those who enrolled completed the course).
- It increased access to training and qualifications.
- It created a resource of learning materials which had otherwise been lacking.
- It raised awareness of the possibilities of distance education as a means of training teachers.

When the participants were asked for their preferred mode of study if further study opportunities arose, and were given three options (distance education; a two-year full-time course; or a course taught at colleges only in school holidays), 76 per cent of the students named distance education as their first choice.

The proposal to start the External Degree Programme of Makerere University (Makerere University, 1990) indicates that in 1989, UNESCO organised an International Conference on Education. During the conference, it was noted that the rate at which knowledge and skills become obsolete demands that post-secondary education should provide various forms of recurrent and refresher education. All those who already possess a basic university diploma or professional qualification should be given the opportunity to undertake refresher courses, specialised training or retraining without the need to interrupt their professional activities. Those who have reached the end of their professional career, and all adults who have sufficient free time, should be given the chance to remain in touch with the world of science, new technologies and culture, so that they may continue to take an active part in the development of their society.

4.2 Distance education characteristics, challenges and constraints

Distance education is known for its flexibility, but most importantly for its cost-effectiveness. In the AMREF Proposal for Support (Ngatia, 1996: 3) this argument is supported by showing how far distance education has proved cost-effective in the training of health workers as follows:

> 'Distance learning is relatively inexpensive, costing about US $120 per student for the full menu of eight courses compared to operational level courses of two weeks which cost US $440 per student and Mid Level Managers' courses which cost US $1,240 per student.'

The AMREF evaluation report of the distance education programme in Uganda (AMREF, 1998) further pointed out why non-formal distance education was required for health workers. The report points out that all health workers require continuing education for one or more of the following reasons.

- Untrained health workers require a mixture of knowledge, skills and attitudes in order to perform their tasks well.
- There is a tendency for health workers to forget what they learnt during their basic training.
- There are new areas of knowledge and skills that health workers need to be trained in.
- Some health workers have taken on new assignments for which they were not prepared in their basic training.

Omwangangye (1998a) described the distance education programme for health workers in Uganda as one which entails health workers studying by correspondence, a self-directed learning where health workers study as they work and a method which, besides being cost-effective, has a wider coverage.

To be successful, distance education requires constant support to tutors and learners. Omwangangye (1998a: 5) shows the support given to health workers as they study at a distance as follows.

> 'While carrying on with the courses, (usually one course at a time) learners are assisted to study their courses to successful completion by tutors giving prompt feedback on learners' assignments, visiting learners in their work stations to provide on-site support, and conducting two-day residential meetings with learners to address among other, relevant practical aspects of the courses (face-to-face tutorials).'

5 METHODOLOGY OF THE STUDY

A case study approach was used, which aimed at an in-depth study of the distance education programme of the HMDC of the Ministry of Health. The case study enabled the In-Country Researcher to spell out the unique characteristics of the programme, its achievements and constraints, and the impact it had made on the communities.

5.1 Target population

The target population of the study included all the 319 actively involved in the programme as managers and learners and were distributed as follows:

1. learners on the programme (266)
2. tutors on the programme (30)
3. Ministry of Health officials who are responsible for policy and planning of the programmes (3)
4. the Director of the HMDC (1)
5. the Co-ordinator of the distance education programmes of the various courses (1)
6. Co-ordinators of the Marking Centres (15)
7. the Directors of organisations that had collaborative working relationships with the programme (AMREF, EDF, Irish Aid) (3).

5.2 Sampling procedure

Active learners were selected by means of stratified random sampling. A list of all learners was compiled and divided into strata such as nurses, medical assistants, health workers, health inspectors and nursing aides, dispensary owners and so on. From each stratum, a 30 per cent sample was selected using simple random sampling procedures to yield a total sample of 80 active learners.

In all categories of those involved in the programme (learners and managers) the researcher intended to get at least 30 per cent sample (response rate).

5.2.1 Graduates and drop-outs

The evaluator aimed at reaching 30 per cent of the drop-outs, and at least 30 per cent of those who had completed. However, due to the difficulties involved in tracing these categories of respondents, no response was sought from them and they were therefore not included in the sample.

5.2.2 Programme managers

These included those in categories 2 and 3 above. Officials from the Ministry of Health and directors of other organisations were purposively selected depending on availability. The Co-ordinators of Marking Centres were also purposively selected from areas where no study had been conducted earlier during in-house monitoring and evaluation exercises. Tutors on the programme were selected using simple random sampling procedures. Therefore, the 30 per cent sample was composed of ten tutors on the programme, an official from the Ministry of Health, the Co-ordinator of distance education programmes, five co-ordinators of marking centres, the Director of the Health Manpower Development Centre and the Director of AMREF giving a total of 19 respondents from this category.

The entire sample, therefore, was composed of 80 active learners and 19 managers, giving a total of 99 respondents.

5.3 Sources of information

Information was sought from:

- annual reports of the distance education programme, workshop reports, and any other records available
- official policy documents
- learners' record cards
- District Health Officials' reports and needs assessment documents
- documents of Programme Managers of NGOs involved in the programme
- documents of representatives of donors
- rural residents who benefited from the programme and selected key informants.

Community mapping of resources to show available economic potential and the health status of the Ugandan people, as well as a review of available documents, were carried out.

5.4 Data collection procedures

Data was collected using both quantitative and qualitative techniques, depending on the nature of the information required.

To document the programme's activities, the following methods were used:

- review of quarterly reports
- discussions with implementing staff
- conversational interviews and limited observations to investigate perceptions of the programme among beneficiaries and staff
- focus group discussions, particularly among the learners, to obtain their views of the programme.

A list of indicators was developed and used by the In-Country Researcher, based on the procedure agreed after the Commonwealth of Learning training workshop. The interview schedules and questionnaires were based on the research questions which had been tested and were successfully used by Dodds and Mayo (1992). The In-Country Researcher worked closely with the Distance Education Programme Manager of the HMDC, who had a medical training background and had been involved in distance education since 1989.

5.4.1 Quantitative information

Questionnaires were used to collect information from current learners, those who did not complete and those who completed their courses. They were also used to help the Evaluator to review various aspects of the programmes – learner characteristics, management characteristics, costs, sustainability, impact. The questionnaires were administered personally by the In-Country Researcher, through workshops organised by the Marking Centre Co-ordinators in the district where learners were based.

Interviews were conducted personally by the In-Country Researcher with staff and managers of the HMDC, policy makers and donors. The interviews were recorded using a cassette recorder.

5.4.2 Qualitative information

In collecting qualitative data, the In-Country Researcher carried out:

- focus group discussions with active learners, those who had not completed and these who had completed courses
- interviews with key informants, including Supervisors and Co-ordinators of Centres.

The focus group discussions were conducted in groups of ten. The In-Country Researcher conducted the interviews with approval from relevant officials. Both the focus group discussions and interviews were recorded using a cassette recorder.

6 FINDINGS OF THE CASE STUDY

6.1 Aims and objectives of the distance education programmes

The information concerning the aims and objectives of the distance education programmes of the Ministry of Health was sought through questionnaires, interviews and a review of documents, with personnel working with the programme.

The documents reviewed reveal that the overall aim of the distance education programme was to improve the health of the people of Uganda through improved performance of healthcare workers, by providing continuing education through distance learning (Omwangangye, 1998a; Ngatia, 1996). The aim was to be achieved through:

- providing continuing education to health workers through self-directed learning
- offering correspondence courses and radio programmes that did not disrupt learners' work schedules.
- supplementing other methods of continuing education
- building human resource capacity at all levels of the health sector.

After identifying the objectives of the distance education programme, the In-Country Researcher set out to establish the extent to which these objectives had been met.

6.1.1 Providing continuing education

There are an estimated 11,054 health workers in Uganda, working in 95 government and NGO hospitals, 96 health centres and 907 dispensaries and sub-dispensaries, according to Omwangangye's paper presented in 1998 on distance and non-formal education. A large number of these health workers – including registered or enrolled nurses, clinical officers and medical officers – have had some basic training.

However, there are also a large number of untrained health workers, called 'nursing aides', working in most rural health units and sometimes running them, who have learnt their skills on the job. The majority of the nursing aides interviewed had had at least three years of secondary school education. These nursing aides appear to be among the greatest beneficiaries of the distance education courses. Table 2 shows the types of health workers enrolled on the programme. Mbale District is usd as a representative sample.

As Table 2 shows, the nursing aides are the most active participants on this programme. They are the ones with the lowest level of education, yet they run the up-country hospitals. The challenges before them are great, as they have to keep up-to-date with developments in the rapidly changing medical field. The clinical officers and nursing sisters are highly educated, but they need managerial skills as well as community-based training, which is not highly emphasised in their pre-service formal training.

Table 2: Health workers enrolled on the distance education programme in Mbale District

Type of health worker	Number
Medical assistants	22
Clinical officers	47
Nursing sisters	81
Nurses	72
Midwives	89
Health inspectors	31
Health visitors	17
Nursing aides	137
Total	**496**

The total enrolment as at April 1999 was 5,946. This shows that out of the estimated 11,056 health workers, 54 per cent were enrolled on either one or two courses or had completed the courses. This therefore shows a commitment to the provision of continuing education through distance education as indicated in the objectives.

6.1.2 Learning without disrupting work schedules

On the issue of offering continuing education without disrupting learners' work, the questionnaire responses and focus discussions were all positive. All those who responded to the questionnaires indicated that the courses allowed them to do their professional duties and learn at the same time.

Some qualitative answers explaining how they found the course were as follows.

- They are a key to memory.
- They remind me of what I do not understand well.
- The courses are easy to grasp.
- They assist me to do my work well.
- They better my capability to deliver health work in this changing scientific world.

All indicated that they found the courses flexible and compatible with their work.

6.1.3 Supplementing other methods of continuing education

The distance education courses have supplemented greatly other forms of continuing education. In a focus group discussion, health inspectors and other primary care students revealed that many new approaches, techniques, drugs or conditions that they were not taught about in their basic training are being covered in the courses. They cited the example of community mobilisation in the immunisation course.

6.1.4 Building human resource capacity in the health sector

There is also evidence that the courses have built human resource capacity in the health sector. This is especially the case in the remote areas of the country where, due to the prevailing adverse socio-economic conditions, highly educated health personnel tend to avoid being posted. Generally the nursing aides have greatly benefited from the courses and are practising what they learn as they work. In a focus group discussion, one nursing aide commented: 'We know now how to control cholera spread and we do not fear to handle cholera patients'.

6.1.5 How far have the objectives been met?

It seems, therefore, that most of the objectives may have been met to a great extent. What is not yet clear, and which would need a rather intensive study, is the extent to which the overall aim of improving the health of the people of Uganda has been achieved.

From the discussions carried out, the course participants told of improved health in the communities where they worked. For example:

> 'I have taught the people about ways of controlling malaria – for example, by slashing around their houses and getting rid of empty vessels that harbour mosquitoes. As a result malaria has decreased. I learnt this from the course in communicable diseases.'
>
> 'I have managed to mobilise my village mates to immunise the children and to finish all doses. I learnt this from the course on immunisation.'

However, considering that the distance education programme currently operates in only ten of the 40 districts of Uganda, the impact on the country as a whole can only be regarded as minimal.

6.2 How have the distance education courses benefited health workers?

The research revealed various benefits derived from the courses. The main ones cited were as follows.

- The learners apply immediately what they learn. The courses are practical compared to the theoretical courses learners underwent during their formal training.
- 'The course is able to boost knowledge, to keep me in the cycle of reading and to execute my duties amicably'.
- 'I have gained knowledge from one course and have been able to apply it to other areas of health. For instance, I have learnt community health, but it includes all other areas of health such as child health, environmental health and immunisation'.
- 'There is new knowledge gained and a lot reminded'.

Generally, the distance education programmes have enabled health workers who would not otherwise have benefited from any continuing education due to costs involved to refresh their knowledge and to acquire new knowledge. One participant in a focus group exclaimed: 'The course is free – it has helped us', indicating that the participants so far are bearing no costs and that that is a great benefit to them. The Co-ordinator of one of the Marking Centres said learners benefit as 'they keep abreast with basic and current updates in the provision of health care'.

6.3. How satisfactory are the media and teaching methods used?

Print and radio are the main media used in the distance education programmes. Various teaching methods are used during face-to-face sessions, including discussions, lectures, group work and practicals. Each of these media were examined to determine how effective they were in delivering the educational messages.

6.3.1 Printed study materials

Table 3 shows findings from the questionnaires on how satisfied learners are with different aspects of the printed course materials.

As Table 3 indicates, the study materials were rated highly, with none of the variables being rated as poor. When asked to explain how the study materials had benefited them, participants gave the following replies.

Table 3: Learners' ratings of printed materials

Variable	Number of learners rating materials as			
	Very good	Good	Fairly good	Poor
Readability	3	4	-	-
Lay out & format	1	6	-	-
Illustrations	4	2	1	-
Language level	4	3	-	-
Relevance to course	4	3	-	-

- 'They provide much of the knowledge I seek in answering the assignments.'
- 'Reminds me what I don't understand well as I work.'
- 'It has been very good because there were no hard words during my studying.'
- 'They have been assisting me to do my work well.'

Personal study of the materials by one of the researchers confirmed that the materials were well written and simple to understand. Theywere not too difficult, despite the fact that the researcher herself was not a medical trainee.

Despite high ratings for the study materials, some weaknesses were noted. For example, the materials included a reference to a table which did not exist and was necessary for answering one of the assignments. Some incorrect page references were also noted – learners were asked to read certain pages but found the relevant materials on different pages.

Learners felt that the materials could be improved by being updated to suit varying (dynamic) situations. The Co-ordinator said that the materials have been reviewed and updated, but have not yet been reprinted. She was sure there would be an improvement in the tutor-marked assignments and in-text activities.

6.3.2 Face-to-face sessions

From the questionnaire responses, it is clear that attendance at face-to-face sessions is very irregular, with no respondents claiming to attend sessions often, and most stating that they attend sessions rarely or not at all.

The focus group discussions, however, revealed that face-to-face sessions are rarely arranged. They are not a regular feature of the course, and some learners complete a course without ever attending any face-to-face sessions.

In one focus group, it was discovered that a team from Mbale (the headquarters) still runs the face-to-face sessions even in remote areas of the country. This explains the rare nature of the sessions. Some students said they wanted more opportunities to attend face-to-face sessions.

The Co-ordinator of the programme confirmed poor attendance at face-to-face sessions, blaming it on learners' other commitments. She felt that regular face-to-face sessions should be compulsory. She also pointed out that the face-to-face sessions depend to a large extent on the availability of donor funds. In the absence of such funds, the sessions simply do not take place. The sessions are costly, she said, requiring payment of allowances to tutors and learners.

In a workshop organised for Co-ordinators, the discussion concerning face-to-face showed the necessity of these sessions, but the issue revolved around availability of staff and funds.

70 per cent of the 80 learners interviewed agreed that the face-to-face sessions are organised. The Co-ordinator of the programme revealed that learners are invited to two-day sessions to address practical aspects of their courses. Between 30 and 60 of the learners, the Tutors of particular courses, the Co-ordinator and Clerks, and staff from health units where practicals may take place are invited to the sessions. Learners, Tutors and the National Co-ordinator, the Co-ordinator explained, evaluate the sessions at the end. The instruments used to evaluate the sessions include questionnaires answered by the learners and a checklist used by the Central Facilitator. The Tutors informally evaluate the sessions and inform the Co-ordinator.

The benefits of the face-to-face sessions according to the learners are numerous. Below are some of their responses to the open question asked in their questionnaire as to what they like most about face-to-face sessions:

- enable sharing of experiences
- allow for brain-storming
- relevant correction
- bring us together with Tutors and we share experiences
- open discussion and experiences
- sharing experiences, meeting new friends and Tutors.

The major complaint about face-to-face sessions was that they were too short. The Co-ordinator also confirmed that the time was limited for some skills. All of them indicated that face-to-face sessions should continue to be part of the programme.

As far as study groups are concerned, this is a new concept for learners and groups are rarely organised The explanation may be that since the learners do not undergo any formal examinations, they do no panic about their studies and discussions that do take place among learners are just casual.

6.4 Effectiveness of administration and management

The interviews with the Co-ordinator of the programme revealed that she has overall responsibility for all distance education programmes in the country and is apparently overworked. She is responsible for planning, implementing, supervising, staff monitoring, and evaluation of progress of the programme. She is also responsible for the development of the course materials, and compiles returns and reports on activities carried out.

Through observation and interviews with her, her 'one-woman administration' appears to be effective. She has obviously tirelessly uplifted the quality of the course materials. She has also imparted skills of tutoring to the Tutors, including supporting and counselling learners at a distance and marking scripts.

The Director of HMDC's comments on administration and management were quite useful. As far as status is concerned, the distance education programme is fully incorporated into the existing in-service training programme. The Director and Tutors are employees of the Ministry of Health, and the distance education courses are fully recognised as an integral part of the continuing education for health workers.

The Director pointed out that since the inception of the programmes, more Co-ordinators and Tutors have been co-opted. Decentralisation of the programmes is slowly taking shape and record keeping will improve with computerisation and decentralisation.

On some observed weaknesses of the administration, the Director said that the delivery of course materials is slow and unreliable and requires improvement. Communication with Co-ordinators from various Distance Education Units also ought to be strengthened.

6.5 Retention and completion rates

On the question of basic qualifications for the learners, the Director said that professional basic training in nursing and medicine was a requirement. Retention and performance could not necessarily be based on qualifications but more on commitment and the learner's work schedule. The learners are employees with districts and the emphasis is put on skills. Performance is therefore judged on skills, which could not be attributed entirely to distance education since there are other forms of continuing education such as supervision, short courses and so on.

The Director indicated that the open nature of enrolment had some effect on completion rates. Tutors also pointed out that some units are difficult and discourage learners. The learners also hinted at this when they said that some of them (nursing aides) were not allowed to do some of the courses they would have like to do, such as Communicable Diseases, and they are restricted to Immunisation.

The fact that the certificates the learners obtain at the end of the courses are not recognised and cannot not be used for promotion or increment in salaries, or as an entry requirement for other formal courses, greatly affects retention of learners, the Director observed. However, on a dissemination workshop of the evaluation report, the Commissioner of Health hinted that plans were underway to recognise the certificate. The Director of the HMDC thought that the courses should be structured according to different types of health worker. Doctors, medical assistants, nurses and nursing aides all studied from the same manuals and their levels of understanding were quite different. He was also of the view that non-recognition of the certificate attained was a major contributor to the non-completion of courses.

The Director also attributed non-completion of courses to poor monitoring of learners due to limited staff.

6.6 Visible impact of the distance education programme

The researcher did not have the chance to observe in practice the improved skills of learners who underwent courses. However, the formative evaluation of the courses by a medical doctor indicated improved skills.

The focus group discussion with the learners indicated things they could do after studying the courses. Some of their responses were as follows.

- I can treat malaria better. I know the dosage.
- I have cleared misconceptions about immunisation by educating the public and they are responding well.
- I know the approach towards the community if I am to mobilise them for any health programme.
- I have shown members of the public how to control malaria by slashing the grass, burning the waste, shutting doors during evening hours.
- I now know the proper site to inject.
- I have gained more knowledge in the prescription and administration of drugs.
- I am now more acquainted with the medical language and can interpret prescribed medicine.

The impact of the programme is also illustrated by the following.

- The focus group revealed that the medical doctors are very interested in the courses on management of a Health Centre, since many are posted in up-country centres as District Medical Officers without managerial skills. With time, the impact is likely to be felt over a wide area in Uganda.
- The learners, since they are based in the villages, are able to share their knowledge on subjects such as nutrition and communicable diseases.
- Changes in the handling of patients (customer care) after enrolment on the course were noted in interviews with people in charge of Health Centres and in certain documents.
- The Director of the HMDC pointed out that, according to test evaluations done, there were definite improvements in performance.
- Many health workers have enrolled, and there is interest for the courses among health workers of all levels.

6.7 Costs and sustainability

Sustainability of the HMDC distance education courses is a big issue. At present they are almost 95 per cent donor funded. The Ministry of Health in Uganda provides funds for staff salaries, vehicles and a venue to house distance education staff. Donors pay the costs of:

- materials production
- staff allowances during face-to-face sessions
- transport for the National Co-ordinator and Tutors
- provision of reference books
- technical support.

The Director of HMDC had no idea of the initial capital. All he knew was that it was a combination of Irish Aid and AMREF contributions. Subsequent costs include staff allowances and printing of materials. The cost of instruction per student per course, according to the Director, is US $4, including three- and six-month courses. According to him the distance education courses are ten times cheaper than conventional courses.

Currently learners do not pay anything for the courses. The only cost for them is on posting assignments to be marked. The Director cited financial problems as the major constraint of the programme, and suggested that recognition after completion of courses would induce health workers to pay for the courses.

Tutors are paid a token figure of Ug Shs 20,000 (US $14) per month, and 500 Ug Shs (US $0.35) for marking an assignment. Yet they are expected to send in learner returns each month, account for funds and submit supervision reports on top of their normal government duties. This leads to poor motivation among Tutors.

Steps that have been taken to institutionalise the major components of the programme, and thus ensure sustainability, include:

- using Tutors who are already employed in the hospitals, districts or institutions
- requesting learners to pay for the courses, if certificates are officially recognised.

7 CONCLUSIONS AND RECOMMENDATIONS

Uganda has inadequate health facilities and health personnel. Performance of existing personnel depends to a great extent on retraining them to update their knowledge and acquire new skills. The distance education courses of the Ministry of Health, Uganda have developed in line with the Ministry's vision of providing continuing education to keep health workers abreast with changes in the health field and to enable them to upgrade their skills. This objective has to a large extent been met, considering the large number of health workers who have enrolled on the distance education courses.

Distance education has the advantage of training health workers on-the-job, and enables them to practise as they learn, applying immediately the knowledge they have gained. The DE programme can reach a large number of health workers, and its impact is felt within communities and in the country as a whole. The researcher observed that even those learners who had not completed the courses were proud of what they had achieved so far, and were able to apply what they had learnt to the benefit of the community.

However, the extent to which those who enrol on the course gain new skills and improve their performance should be carefully monitored to assess the effectiveness of the courses.

7.1 Demand for and relevance of the courses

The DE courses are in demand for various reasons, including keeping learners up-to-date, refreshing their knowledge, and upgrading learners' skills, which they apply immediately while on the job. Learners, for example, have been able to contribute to the control of some of the endemic diseases such as cholera. The courses are therefore valuable to individual health workers and to the population at large.

It is also worth noting that many of the health workers in the rural health units are nursing aides, who do not have formal training and lack the necessary qualifications to join formal health training programmes. The open nature of entrance to the DE courses has enabled them to have access to up-to-date knowledge and skills which they would not otherwise have gained. They in turn pass knowledge and skills on to the community, improving the health of the people of Uganda. There is evidence that those nursing aides who have completed the course perform better in health units. There is therefore a need to continue with the programme and to encourage all health workers to enrol on the courses to improve the service they provide to their clients.

7.2 Learner support

The main problem with the programme relates to learner support and supervision, which suffers from inadequate funds and shortage of personnel. Due to lack of support and supervision, many health workers enrolled on the programme have failed to complete on time. For distance education to be a cost-effective means of training large numbers of health workers, there must be a supervision and support system in place to enable them to complete the course. It is therefore important to obtain funding to provide adequate support.

Communication is difficult in Uganda, and the researcher concludes that the nearer learners are to a Co-ordinating Centre, the better. Establishing Co-ordinating Centres in the districts has led to a reduction in the loss of study materials, more effective support and increased completion rates.

7.3 Study materials

Printed study materials have proved to be very helpful. They provide up-to-date knowledge for health workers and are used for reference after learners have completed the course. Since they are written in a simple, easy-to-read format, they help all levels of health workers, whether they are following the course or not. 72 per cent of learners ranked the printed materials as the most useful media used on the DE courses.

7.4 Radio programmes

The radio programmes are of great value to the community and to the learners. They discuss common health problems and offer solutions, and supplement knowledge gained from other media. The problem with the radio programmes is that they are broadcast at a time when listenership is limited, and on a national radio station whose reception is also limited to areas near the capital city. Broadcasting the same programmes on FM radio in local areas would increase listenership and increase the impact of the radio programmes in the communities and the country as a whole.

7.5 Assessment and accreditation

The DE programme does not involve examinations. Achievements are measured by means of a post-test, which is attempted by the learner after studying all the course units and after passing two assignments. 57.5 per cent of learners regarded this method of assessment as good, 21.3 per cent saw it as fair, while 21.3 per cent did not respond, an indication that the method of assessment may need revision.

Learners completing the programme receive a certificate of attendance. However, both the administrators of the programme and the learners felt that the certificate had its limitations. It is not recognised for promotion or for increment in salary. It is therefore important to develop the courses to the level of awarding a certificate that can be recognised for promotion or for an increment in salary, or as a relevant qualification for admission on a formal course.

7.6 Costs and sustainability

It has been found out that it costs less to train a health worker through distance education than through conventional means. The cost so far calculated is US $152 for distance education and US $400 for the same menu of courses but offered through residential seminars. Since there are an estimated 11,056 health workers and the residential courses cater for only 50 learners per course per seminar, which are offered once or twice a year, the DE courses have the advantage of reaching a greater number of health workers at a lower cost.

This programme is donor funded, which means that funds are limited and can be slow to come. This has limited the spread of the programme to all parts of the country. Also, until recently, the programme has been run, and funds disbursed, centrally. Steps are under way to decentralise the programme to district level, but funding is still a problem due to scarce resources in the districts.

Awareness has been created among health workers of the advantages of the DE courses. The courses should therefore not to be dropped because of lack of funds, and all efforts should to be made to ensure the sustainability of the programme. Participation of the districts and of learners themselves in funding the programme should be encouraged. An appeal is being made to the Government of Uganda to develop a curriculum that would lead to a recognised certificate on completion of the courses, which would encourage learners to pay for the courses.

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Chapter 6

ZAMBIA: THE RADIO FARM FORUM

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1 INTRODUCTION

1.1 Background

Zambia is a landlocked country in Central Southern Africa occupying an area of 752,614 square kilometres. Her neighbours include Malawi and Mozambique in the East; Tanzania and Democratic Republic of the Congo in the North; Zimbabwe, Namibia and Botswana in the South; and Angola in the West. The country has a tropical climate, with a hot and cold season each year. In good years, rainfall is abundant and agricultural production is high, while in years of drought agricultural production is limited.

Since independence, agricultural development has been given high priority in successive National Development Plans whose policy objectives have included the following:

- to achieve self-reliance and self-sufficiency in staple foods, both nationally and regionally where feasible and to provide raw materials for the agro-industries
- to stimulate and increase production for exports
- to increase the contribution of the rural sector to GDP and to promote diversification of the rural economy
- to improve rural standards of living and nutritional status and to create a self-reliant and progressive rural society
- to create new employment and income opportunities in rural areas in order to counteract rural-urban migration and to improve infrastructural services related to increased productivity.

(National Commission for Development Planning, 1979: 144)

Indeed, stimulating production in the rural sector and raising rural incomes can widen Zambia's economic base. According to Duncan (1996: 122) agriculture is one of the preliminary priority activities identified for UN support under the theme 'Towards an agenda for sustainable human development in Zambia'. The proposed main areas of support include 'the expansion and diversification of production by small farmers through market based incentives and alleviation of critical constraints'.

Since independence, the main problem has been how to disseminate agricultural information to the large, widely dispersed rural population. Extension services based on personal contact have not been as effective as desired because of transport difficulties, inadequate funding and shortage of extension staff.

In the 1960s, the need to deal with this problem led to the decision to use radio to disseminate agricultural knowledge, information and skills to rural subsistence farmers. Radio has been used for social marketing and technology transfer, especially for agricultural development, in many countries. The National Agricultural Information Services (NAIS) of the Ministry of Agriculture, Food and Fisheries transmits six agricultural information programmes on radio in both English (the official language of Zambia) and in seven Zambian languages: Tonga, Nyanja, Lozi, Bemba, Luvale, Kaonde and Lunda.

1.2 Project description – historical

The recognition of the centrality of agriculture to food security in Zambia dates back to the colonial period. During this period, the British Government of what was called Northern Rhodesia undertook certain measures to promote agricultural production to feed the workforce in urban areas, particularly on the mines on the copperbelt. Most of these measures, which included dissemination of important technical information, were targeted at the European settler community. Little or no attention was given to agricultural communication for the rural farming community.

In June 1966, a UNESCO Mission on Agriculture Broadcasting visited Zambia to conduct a survey on existing broadcasting facilities in terms of adult educational needs in the rural areas as well as visual aids service needs. The Mission recommended that the Radio Farm Forum (RFF) should be established in order to improve communication between the Ministry of Agriculture and the field officers by providing a mechanism for feedback. The main objective of the Radio Farm Forum was to give farmers an opportunity to assemble, listen to a particular problem introduced to them on radio, talk it over, decide what to do about it and make the decision known to the local extension officer and the producers of the programme in Lusaka. The Radio Farm Forum was an additional way for the Ministry of Agriculture to reach more farming communities over a larger area since the Ministry did not have enough extension officers.

The decision to use radio in agricultural development in Zambia was based on the size of the population, the types of roads, literacy levels and the need to increase household and national food security. The Radio Farm Forum, produced by the National Agricultural Information Services (NAIS) and broadcast by the Zambia National Broadcasting Corporation (ZNBC), is now one of the eight radio agricultural information programmes run by the Ministry of Agriculture, Food and Fisheries. It is a 30-minute discussion programme produced and broadcast in English and the seven local languages. Farmers under the guidance of the agricultural extension officers discuss selected topics. Each radio listening group has a Chairperson and a Secretary (both farmers). These groups exist in every agricultural area where farmers are close together. The membership of a forum is limited to 15 farmers.

A National Agricultural Information Services officer records the forum discussions under the two main guidelines: that the subject matter is handled professionally but simply; and that all facts about the topic are accurate.

To many farmers, the radio has become their most faithful teacher as it becomes more and more difficult for the Ministry of Agriculture, Food and Fisheries to reach farmers personally. The use of radio seems to provide an answer. There is no record of the nature and involvement of the target population or local communities in the design of the programme. This suggests that the programme was designed with negligible or no input at all from the local communities or beneficiaries of the programme.

The original rationale of the programme was to serve as the main mode of communication of agricultural news and technical information by the technical experts based at the Ministry of

Agriculture to the peasant farmers in remote rural areas. Some of the specific educational needs the programme was meant to address were: information on new farming methods, new varieties of seed, types and application of fertiliser, types and spacing of seeds, types and application of pesticides and types and treatment of some of the crop diseases as well as information on specific questions raised by the farmers. The audience for the programme was clearly defined as the rural non-white farming community involved in subsistence agriculture with potential for increased productivity.

1.2.1 Objectives

The programme's original educational objectives included the ability by listeners to:

- correctly apply the technical information received
- correctly identify and describe some of the common crop and animal diseases and pests
- effectively advise other farmers on good farming practices.

The agricultural technical staff, based on what they perceived to be the educational needs of the farmers, established these objectives. The objectives are still valid because more and more people are turning to agriculture as a source of livelihood. Most of these have very little or no idea about new farming techniques and practices. The above objectives have remained the same since the programme was introduced because there has been no study undertaken to determine whether there should be a shift in emphasis or not.

1.2.2 Relations with other organisations

The programme was to draw on existing educational and research institutions for expertise on technical information. As a result, most of the programmes have continued to feature teaching staff from the Natural Resources Development College, the Zambia College of Agriculture and the University of Zambia School of Agricultural Sciences as well as research staff from the National Council for Scientific Research, the Mount Makulu Research Station and the Golden Valley Research Station.

The programme has also had a close relationship with functional adult literacy programmes run by the Ministry of Community Development and Social Services. Through these programmes rural illiterate communities are taught functional literacy skills such as reading and counting to enable them to read and carry out simple instructions on, say, fertiliser application. The Radio Farm Forum supplemented this effort.

1.2.3 The role of the Radio Farm Forum

The Radio Farm Forum was expected to play a permanent role in Zambia's socio-economic development system. This is because it was realised that Zambia could not depend on copper exports forever and that sustainable economic development lay in increased productivity in agriculture. Although Zambia had, and still has, agricultural extension service staff who visit farmers and advise them on different agricultural matters, the Radio Farm Forum has played a very important role in complementing the efforts of the extension staff since it is not affected by distance, quality of roads or literacy levels. In addition, the number of extension staff is far below the required number for such a widely dispersed population. By 1994 there were about 643,000 farm households against about 3,000 extension workers. This explains why the programme has continued to this day.

1.2.4 Government support

The government of the Republic of Zambia provided both technical and financial assistance for the programme. There is no record of any agencies, domestic or foreign, having provided assistance.

In the First and Second Republics (1964 – 1990), the government encouraged the formation of Radio Farm Forum groups in almost every district and provided radio sets and batteries. To encourage the farmers to utilise the knowledge gained from the programmes, the government also subsidised fertiliser and seed to affordable levels for the small-scale farmers. The batteries were given on a monthly basis. The farmers were also able to send their reports by government pre-paid mail service and so did not need to buy stamps and envelopes. Because of government support, there were 1,000 Radio Farm Forum groups by 1992.

In the Third Republic, the government has adopted the liberalised market economy policies where the market forces of demand and supply are expected to determine production of goods and provision of services. This has led to the government withdrawing subsidies and other government support services from many sectors including the agricultural Radio Farm Forum groups. The government is no longer providing radio sets, batteries and stationery. The government policy on Radio Farm Forum in the Third Republic is to encourage self-help or self-reliance among Radio Farm Forum groups.

1.2.5 Problems with the Radio Farm Forum programme

Mutava (1987) and Ngangula (1990) identified the following as the main problems affecting the Radio Farm Forum programme.

- Radio batteries are not always available in rural areas and it is not easy to have radios repaired.
- Members of some religious groups do not like certain topics. For example, the Seventh Day Adventists (SDA) object to discussions on pigs and tobacco. This creates divisions among listening group members.
- Supervision of Radio Farm Forums is very difficult during the rainy season due to lack of all-weather roads in many parts of rural Zambia. In some cases there is a serious shortage of transport and staff. Zambia is so wide that it is not possible for the Department of Agriculture to settle Agricultural Extension Officers at every camp. Staff are settled at district, regional and camp levels which are many kilometres apart.
- Some printed materials have little or no use in some remote parts of the country because most of the peasant farmers cannot read. They depend on listening to the radio.
- The regional differences in terms of language and agricultural practices have made it increasingly difficult to transmit from one central broadcasting station information that meets the needs and interests of each province.
- There is also a shortage of air time. There is only one national broadcasting station which cannot cater adequately for various organisations that have to compete for air time. In some parts of Zambia, radio reception is so poor that some people tend to tune their radios to neighbouring countries. This means that they miss a lot of agricultural information broadcast for them.
- Recording facilities are not adequate and some of the production staff, such as broadcasters and technicians, are not adequately trained.

An additional problem experienced during the late 1990s was the high cost of transmitting radio programmes. The re-introduction of multi-party democracy in Zambia in 1991 was followed by the introduction of broad economic policies which are liberal and free market and private sector oriented. This resulted in the abolition of subsidies and state-oriented pricing. The Zambian National Broadcasting Corporation, like all other quasi-government institutions hitherto heavily subsidised by the government started charging 'economic fees' for air time.

2 LITERATURE REVIEW

In Zambia, like in many other developing countries, there are many people who are unable to enter the formal system of education for a variety of reasons, ranging from inadequate financial resources at national level to provide places for every citizen (adult and child) to negative attitudes among parents towards the education of their children, especially girls. As a result, many countries have to make use of non-formal education, in some cases by radio.

Distance education was adopted shortly after independence as one of the strategies for the quantitative and qualitative development of both formal and non-formal education. It has since played an important role in the government's efforts to alleviate the problems relating to access, equity and quality in educational provision.

Distance education in Zambia serves many purposes, which include the following:

- to provide second-chance education for the drop-outs of the formal education system
- to raise the educational level of public servants, teachers and the general public
- to provide opportunities for re-entry into the formal and face-to-face education system
- to provide opportunities to gain further qualifications
- to allow people to learn while they work, saving them, their employers and the government money
- to provide a relatively inexpensive form of education
- to overcome the shortage of trained teachers
- to improve the quality of instruction in educational institutions
- to raise the basic standard of agriculture, health and education in general, which have assumed greater socio-economic importance.

The major providers of distance education include the National Correspondence College of the Ministry of Education, which was established in 1964 to offer secondary-level courses to both recent school leavers and adults. The Ministry of Education (1996) estimated that there were about 20,000 school leavers (14-17 years) studying in open learning centres throughout the country and over 30,000 adults directly enrolled with the National Correspondence College.

The University of Zambia established a distance education programme in 1966 which now offers courses contributing to the award of five degree programmes in education and humanities and social sciences and a Diploma in Adult Education. The total enrolment is about 1,000 students (Siaciwena, 1998).

Established in 1980, The Zambia Cooperative College was offering correspondence courses to co-operative society members, co-operative society employees and non-members in the whole country up to the 1990s. There were 300 registered learners in 1995. In the early-to-mid 1980s, the College also ran mass member education programmes, including a series of mass radio learning group campaigns. Courses included co-operative education, basic business calculations, society management and co-operative consumer shop management. Over 100,000 people (including group leaders and participants) in study groups have participated in the programme since the college was established (Siaciwena, 1998).

The Ministry of Community Development and Social Services runs adult functional literacy programmes throughout the country in which radio has been used since 1969 to support literacy work. The Ministry of Agriculture, Food and Fisheries also employs non-formal education through radio to educate farmers (especially those in rural areas) who, in large part, are illiterate or semiliterate, on various aspects of agriculture such as new high yield food grain, application of fertilisers and new animal feeds.

This study is concerned with the Radio Farm Forum, which is run by the Ministry of Agriculture, Food and Fisheries. The Radio Farm Forum was introduced as a pilot project in 1967, starting with the Northern Province, but there has been little research to determine its impact, hence to justify its continuation. The need for impact assessment of radio programmes cannot be over-emphasised. Natesh (1968: 46) observes that 'however careful any radio broadcasting agency may be in defining its objectives and structuring suitable programmes, it can hardly be sure of the impact it makes to its audience'. Kasoma (1990: 44) who stresses the need to determine the impact of an instructional media, especially its effectiveness, also shares this view. He points out that, 'it is not a question of whether the majority of people can hear your broadcasts but whether they understand them'.

Since there is a shortage of agricultural extension staff in Zambia, radio is used to disseminate the much required extension messages. Radio is used because, according to Schramm (1964: 151), it has more advantages than other media. For example, it:

- covers great distances leaping all kinds of natural barriers
- is effective to both illiterates and literates
- is the cheapest of all media production
- is swift in reaching listeners.

Radio broadcasting plays a fundamental role in the development of third world countries. This is because radio listenership is not seriously affected by literacy levels, distance or population density. Moreover, radio is an affordable means of getting entertainment and information for most citizens in developing countries. This is why authors such as Mutava (1997) argue that the power of radio is helping farmers increase food supplies by providing the latest information in the most direct form. This is because radio broadcasts reach people and can be listened to at the same time; they can and are relayed from any distance, and the words used by the broadcaster are not changed.

Adebola and Williams (1977: 23) highly recommend proper use of radio in mass education when they state that 'radio can allow a single teacher to address educational messages to thousands and at times to millions of people at the same time'. If radio is correctly used the few extension workers who cover over 5,000 farmers would not be over-burdened.

The Ministry of Agriculture (1977: 59) supports the idea of having feedback from the listeners by stating that 'since radio mechanism is entirely a one-way process, feedback is not easily achieved. Even programmes like Radio Farm Forums with feedback provision face problems since programme producers have to wait for weeks for feedback. This causes information to become stale'.

It is important, therefore, to carry out programme evaluation to find out whether the programmes broadcast are reaching the intended target group with adequate timely information. Radio Farm Forum feedback sheets are sometimes delayed or get lost due to poor communication and postal services. The other programmes, which are intended to promote agricultural development, have no feedback provision. Such programmes are Farmers Notebook and Radio Sport.

The Institute of Adult Education (1973: 196-7) brings to light some of the problems encountered by radio broadcasts to the audience as:

> 'Most radio lesson broadcasts cannot take into account of local circumstances in terms of time. The programmes have to be fitted in national broadcasting schedules and lessons have to be broadcast at the same time to all areas'.

This observation is relevant to the Zambian situation where broadcasting is controlled by the national programme schedule. The fact that the programmes are controlled at national level means that there is no provision for repeats to single groups of listeners, which have not got the messages properly. In certain cases, the programmes broadcast could be irrelevant to one group while relevant to the other. Programme Producers may casually tell their target groups that certain programmes exist, when they are broadcast, what they contain and how useful they are in order to popularise programmes.

Nanja (1980) observed that Radio Farm Forum listening groups had been on the decline since 1973 because of lack of timely feedback, lack of radio sets, lack of batteries or cells and lack of repair centres for Radio Farm Forum sets. Nanja's study did not look at the impact of the programme on small-scale farmers. For example, are the small-scale farmers applying the new farming techniques learnt through the Radio Farm Forum programme? Are they applying them correctly? Are they producing more maize than before they listened to the Radio Farm Forum programme?

The present study sought to investigate the impact of the programme on small-scale farming communities in Zambia. It also looked at the extent to which farmers apply the knowledge gained through Radio Farm Forum. Broadcasting to Zambian small-scale farmers is a complex issue because it is done in seven languages and to people with different cultural backgrounds and experiences. Apart from the language differences, the farming community differs greatly in educational standards. Farmers' individual interests may also differ greatly. Some do crop production only, or livestock management, while others prefer mixed farming.

3 METHODOLOGY

3.1 Target population

Zambia has nine provinces, but the study was confined to the three major agricultural provinces. The main target population of the study was the Radio Farm Forum programme listening groups.

The target population of the survey included all people involved in Radio Farm Forums, officers from the Ministry of Agriculture, Food and Fisheries (MAFF) Headquarters, Provincial and District Agriculture Officers, Agricultural Extension Officers, Radio Farm Forum listeners and people who are not members of the Radio Farm Forum. There are about 1,440 Radio Farm Forums in the country.

3.2 Sample population

The sample of Radio Farm Forum listening groups was drawn from Central, Southern, and Eastern Provinces, as these are some of the most productive provinces in the country and also provinces where Radio Farm Forum groups have been known to be active. Four districts were selected from each province, and from each district, the survey covered five Radio Farm Forum groups. In all the study involved 240 listeners from 60 listening groups in Zambia. Of these, 126 were male and 114 were female. The sample also included three Provincial Agricultural Information Officers, four District Agricultural Information Officers and 60 Agricultural Extension Officers.

3.3 Data collection

Four major research instruments were used to collect the data for the survey:

- interview schedules for farmers based on the suggested research questions outlined in the main research framework
- four sets of questionnaires for three categories of respondents: Provincial Agricultural Information Officers, District Agricultural Information Officers and Agricultural Extension Officers
- scrutiny of official records, reports and policy documents at the MAFF
- observations and focus group discussions to get additional information from the subjects.

3.4 Data analysis

Raw data were analysed manually and presented in basic descriptive statistics.

4 PROJECT DESCRIPTION

4.1 Types of Radio Farm Forum groups

There are three types of groups.

- Government Radio Farm Forum groups are sponsored by the National Agricultural Information Service of the Ministry of Agriculture, Food and Fisheries. The forums are supplied with radio sets and batteries, stationery, technical advice and booklets written in local languages.
- Self-help Radio Farm Forum groups are run by members of the Forum who buy their own radios and batteries and repair them.
- Non-governmental organisations run some programmes in the North-Western Province of Zambia. They supply small-scale farmers with radio sets and batteries and help with repairs. However, they would like the forums in future to own the radios and do all technical work.

4.2 Organisation of Radio Farm Forums

The Radio Farm Forums mentioned above have Chairpersons, Secretaries and Treasurers. The Radio Farm Forums were based on the traditional lifestyle in rural communities where people come together to discuss and solve their problems. The Radio Farm Forum groups are organised as a self-help activity where members discuss feedback and implementation. They are arranged in groups of 15 members small scale farmers who listen to the 30-minute weekly programme in vernacular languages at selected venues.

There are no restrictions or regulations on where groups should meet. Members decide to meet either in a house or under a tree where there will be no obstruction to effective listening and discussions.

The National Agricultural Information Services (NAIS) encourages two-way communication. Discussion reports are sent direct to the headquarters of the National Agricultural Information Services in Lusaka immediately and a copy is sent to the Provincial Agricultural Information Officer through the District Agricultural Information Officer. If there are questions raised by farmers in their radio listening groups, these are sent to the producer at the NAIS Headquarters in Lusaka. Programme producers answer the farmers' questions in their next radio programme (Malambo, 1992).

Sometimes radio programmes are recorded on different farming locations. Local extension officers, agricultural researchers and farmers select topics. Supporting booklets in simple vernacular languages are supplied by the National Agricultural Information Services (NAIS) (Natesh (1968); Ngangula (1990); Malambo (1992)). One topic is discussed in detail for two 30-minute programmes. The programmes are presented in the form of features, interviews and drama.

Table 1: Age of Radio Farm Forum listeners

	Central Province		Eastern Province		Southern Province	
Age range	**No.**	**%**	**No.**	**%**	**No.**	**%**
15-20	1	1.25	0	0	7	8.75
21-25	1	1.25	0	0	6	7.50
26-30	7	8.75	3	3.75	14	17.50
31-35	12	15.00	16	20.00	15	18.75
36-40	17	21.25	26	32.50	15	18.75
41-45	7	8.75	13	16.25	10	12.50
46-50	19	23.75	15	18.75	6	7.50
51 and above	16	20.00	7	8.75	7	8.75
Total	80	100	80	100	80	100

Table 2: Listeners' educational level by province

	Central Province		Southern Province		Eastern Province	
Grade	**No.**	**%**	**No.**	**%**	**No.**	**%**
Below 4	10	12.50	7	8.75	11	13.75
4	5	6.25	17	21.25	12	15.00
7	35	43.75	23	28.75	27	33.75
9	17	21.25	16	20.00	10	12.50
12	9	11.25	10	12.50	7	8.75
Above 12	4	5.00	7	8.75	13	16.25
Total	80	100	80	100	80	100

Table 3: Gender of listeners by province

	Central		Eastern		Southern	
	No.	**%**	**No.**	**%**	**No.**	**%**
Male	44	55	35	43.75	47	58.75
Female	36	45	45	56.25	33	41.25
Total	80	100	80	100	80	100

Table 4: Listeners' main farming activities by province

	Central		Eastern		Southern	
Crop	No.	%	No.	%	No.	%
Mixed farming	54	67.50	54	67.50	63	78.75
Maize	20	25.00	20	25.00	16	20.00
Groundnuts	3	3.75	5	6.25	0	0.00
Cotton	3	3.75	1	1.25	1	1.25
Total	80	100	80	100	80	100

4.3 Learner characteristics

4.3.1 Age

The age of the learners ranges from 15 to 50 with the greatest concentration at 36 to 40 and the lowest at 21 to 25.

4.3.2 Educational level

Educational levels of listeners range from below four years of schooling (Grade 4) to above twelve years of schooling (Grade 12), with the highest concentration at seven years of schooling (Grade 7). (Many of the primary schools in rural areas end at Grade .7) A small number of pupils are selected for Grade 8 and those who fail to find places in Grade 8 start working with parents or relatives in the fields until they grow up to be small-scale farmers. From the time they leave school up to the time they become farmers, there is very little literature to read. Therefore the idea of using radio as a means of communication to small scale farmers becomes important. In addition to this, some of the farmers have not been able to go to school because they come from poor families or from families that do not value education.

4.3.3 Gender

As Table 3 shows, there were many female listeners, 47.5 per cent (n = 114), although the majority were men. Significantly the Eastern Province had more female listeners, 56.75 per cent (n = 45).

4.3.4 Type of farming

During interviews and focus group discussions small-scale farmers in all three provinces stated that they practise mixed farming. They said that they got the idea of mixed farming from the Radio Farm Forum programme, which encourages crop diversification. Many rural people depend on the crops they grow to survive, so mixed farming is important to them. One of the groups interviewed in Central Province said that before they learnt mixed farming they grew maize only, but now they grow groundnuts, cotton and watermelons.

The survey shows that members of the Radio Farm Forum attend meetings regularly mostly after harvesting but in most cases they meet and listen to the programme as long as they have batteries and good reception. They described the meetings as very important because they learn a lot of new farming methods like crop rotation and soil conservation.

4.3.5 Types of Radio Farm Forums

The Ministry of Agriculture, Food and Fisheries mainly sponsors the Radio Farm Forums in Zambia. However, self-help programmes are also increasing as members of the forums offer their radios to be used.

Table 5: Types of Radio Farm Forums by province

Type	Central Province No.	Central Province %	Eastern Province No.	Eastern Province %	Southern Province No.	Southern Province %
Government	50	62.50	68	85	77	96.25
Self-help	23	28.75	12	15	3	3.75
NGO	7	8.75	0	0	0	0.00
Total	80	100	80	100	80	100

Table 6: Members' ratings of topic relevance

Rating	Number	Per cent
Relevant	218	90.8
Not relevant	22	9.2
Total	240	100

4.4 Programme characteristics

The Ministry of Agriculture develops the materials for the programme. The learner contact sessions begin as soon as the Radio Farm Forum is formed and the learners gather in the afternoons to listen to the programme. The groups operate under an executive committee, which draws up basic rules on how meetings and discussions are to be conducted and how the records of the discussions are to be kept.

In some groups, a bell is rung as the programme is about to begin, to remind the members about the programme and while the programme is running each of the literate members takes notes. After the broadcast, the members compare notes and discuss what they have heard and how they are going to put it into practice.

Agriculture Extension Officers said that they did not visit Radio Farm Forums regularly because of lack of transport and bad roads to some areas. They said that in some areas bridges had been washed away by rains and the roads were impassable, and that the only time they met the farmers was during field days.

4.4.1 Programme length

The Radio Farm Forum programme runs for 30 minutes. It was considered important to find out what members thought about the length of the programme. 70.4 per cent of the respondents were happy with the length of the programmes, while 29.6 per cent of the respondents felt that the programmes were too short and would have liked longer programmes as they found them interesting.

4.4.2 Programme relevance

The Members of the Radio Farm Forum were asked whether the content of the programme was relevant. They rated the content very highly as Table 6 shows.

Most of the content is directly related to the agricultural activities undertaken in a particular area. However, some of the groups in the Southern Province complained that sometimes they have had to listen to programmes on rice growing when this crop is rarely grown in the Province.

The rating of the content of the Radio Farm Forum as relevant was supported by 90.25 per cent of Agricultural Extension Officers and by 98.25 per cent of the District Agricultural Officers

Radio Farm Forum members said that the content of the Radio Farm Forum programmes was suitable for the small-scale farmers because they learned real-life situations. For example, they were taught pot holing, which involves making planting stations in the fields just before the rains. They learnt this method through the Radio Farm Forum programme without the help of the Agricultural Extension Officer. They also found the content relevant because it taught them how to make contour ridges and practise crop rotation. Others said that the content was very relevant because they learnt a lot about the control of corridor disease, which killed their cattle, and about how to use cow manure. Agricultural Extension Officers (79.25 per cent) supported this.

4.4.3 Language

The Radio Farm Forums programmes are transmitted in local languages and 81.25 per cent of respondents said that it was easy to follow the discussions.

5 MEASURING SUCCESS

5.1 Retention/Participation

Retention of members of the Radio Farm Forum can be determined by their participation during meetings. Furthermore, retention can be noticed through good attendance of members at meetings. This is because Radio Farm Forum is a continuous process – members do not pass and leave the programme.
It is noteworthy, however, that more than three-quarters of the participants, 79 per cent (190), stated that they listened to the programme at least once a week while the rest indicated that they participated in the programme at least twice a week. The focus group discussions revealed that the participation rate was high throughout the year. However, acquisition and application of knowledge and skills can be one indicator of the performance of members.

5.2 Skills and knowledge acquired

The members of the Radio Farm Forum programme were asked about the skills they had gained from the programmes. The discussion groups from the three provinces revealed that they had learnt soil conservation and agro-forestry. They also said that they had acquired skills including water ponding, using the donkey as a draught animal and construction of more durable crop storage barns.

Most of the members in the three provinces said that they had gained knowledge on making contour ridges and planting vativa grass on the ridges to strengthen and protect them from being destroyed by water. Others said that they had learnt how to plant nitrogen-fixing trees and shrubs such as acacia slaida, digitarcia, sesbamia sesban and pigeon peas. They had also learnt about the need to practise crop rotation and winter ploughing, which have since been adopted by some of the groups. The farmers also learnt how to protect their maize from the larger grain boner (LGB) by constructing cement-plastered barns.

5.3 Application of knowledge and skills

Members of the Radio Farm Forum interviewed in the study revealed that they apply new knowledge and skills in making pot holes, dry-planting, minimum tillage and water ponding.

The Agriculture Extension Officers confirmed the new practices that farmers are using. 52.5 per cent of respondents had learnt new methods of farming and had increased their yields since they joined the Radio Farm Forums.

5.4 Change of behaviour

The Radio Farm Forum programme has led to change in agricultural practices and behaviour:

- Rural communities feel there is no need to continue with shifting cultivation (slash and burn) which has been the main agent of soil erosion. Through the Radio Farm Forum programme, farmers have been able not only to discard the practice which predisposed the soil to erosion but also to prevent their soils from further erosion and degradation.
- The Radio Farm Forum programme has also led to a change in farmers' behaviour and attitudes towards certain crops. Previously, men used to think that groundnuts, soybeans and local beans were women's crops. Now, most of the male farmers are involved in growing these crops as they have discovered through the Radio Farm Forum Programme that these crops play a major role in crop rotation as they are leguminous crops and are also highly-priced cash crops. The farmers have also begun to appreciate the need to plant hybrid certified seed because of what they learnt through the Radio Farm forum Programme.
- Farmers have come to accept the donkey as a farm draught animal. (In the past they used to consider it as mode of transport for those who practise witchcraft.) In fact they have realised as taught on the Radio Farm Forum Programme that the donkey is much more resistant than any other farm animal to most of the diseases that afflict livestock.
- The farmers also disclosed that through the Radio Farm Forum Programme they had been introduced to the concept of growing drought-resistant crops in drought-prone areas. Most of them now grow drought-resistant crops such as sorghum, millet and cassava as part of their annual farming programme. Had it not been for the Radio Farm Forum programme most of them would have starved following the drought periods which affected the country over the last few years.

Table 7: Practices improved through the Radio Farm Forum

Practice	Number	Per cent
Contour ridging	17	7.1
Vegetable growing	17	7.1
New methods of farming	126	52.5
Producing more crops	38	15.8
Crop rotation	23	9.6
Winter ploughing	19	7.9
Total	240	100

5.4.1 Role of women

The women have realised that they have a big role to play in family and community development and take a very active part in listening to the programme. They explained that the men had recognised the fact that their wives benefited from the Radio Farm Forum programme and had given them permission to listen to the programme. They also encouraged them to practise what they had learnt.

5.5 Improvement in standards of living

The survey showed that the farmers do not have an improved standard of living because there has not been any support for the small-scale farmers by the government, as was the case before 1991. Following the liberalisation of all sectors of the economy, rural farmers have had very serious problems in accessing inputs and in marketing their produce. Some of the respondents interviewed felt that instead of providing relief food to hunger-stricken areas, the government should provide inputs to farmers to enable them put into practice what they had learnt through the Radio Farm Forum Programme. The survey also revealed that the drought, which has devastated the country for a number of years, also contributed to the farmers' inability to enhance their standards of living.

5.6 Sustainability

The programme has suffered from a lack of adequate funding from the government and will be hard to sustain. There is no indication that the programme is self-sufficient, nor that any innovative means have been developed to support the programme. For instance, there is lack of tape recorders, and proceedings of the Radio Farm Forum groups are no longer being recorded.

Another problem, which threatens the sustainability of the programme, relates to the on-going restructuring of the civil service. Many Agricultural Information Officers are being laid off because they lack the necessary qualifications. As the serving officers are being phased out, in most cases they are not being replaced. Eventually, there will be nobody to produce the Radio Farm Forum programme since all the experienced Agricultural Information Officers will have been retrenched and joined the Field Service Department. For further information on staff qualifications, see section 5.8.1

5.7 Governance and administration

The Radio Farm Forum Programme has no legal status of its own. It derives its status through the MAFF and depends on government funding, though there are some self-help programmes. The programme is purely a MAFF programme and has no relationship with the Ministry of Education or with any other Ministry. In practice, the Radio Farm Forum programme is centrally produced and, therefore, centrally governed, by the National Agricultural Information Service in Lusaka.

The procedure is that a programme produced in Lusaka will be broadcast to the Radio Farm Forum programme groups in the language spoken in a particular area – Bemba for Central, Northern, Luapula and Copperbelt Provinces; Nyanja for Lusaka and Eastern Provinces; Tonga for Southern Province; Lozi for Western Province; Lunda, Kaonde and Luvale for North Western Province. The group members listen to the programme, discuss and write a report for dispatch to Lusaka. Some of the reports are read in the next programme and any questions asked are also answered.

5.7.1 Discussion reports

64.2 per cent of respondents said that they complete and send discussion reports to Lusaka. Some members said that they delay sending reports because of lack of stationery and transport to take them to the District Office. They said that discussion reports were very useful because they answered most of

Table 8: Sending of discussion reports

	Central Province	Eastern Province	Southern Province	Total	Per cent
Yes	57	51	46	154	64.2
No	20	15	30	65	27.0
Sometimes	0	1	2	3	1.3
No response	3	13	2	18	7.5
Total	80	80	80	240	100

the questions raised by farmers, such as where to get inputs before the rains come.

5.8 Staffing

Under the MAFF establishment, there are a number of Agricultural Information Officers whose role is to disseminate agricultural news and technical information to the farming community, but who do not contribute much to the actual administration of the Radio Farm Forum programme because they do not live where the Radio Farm Forum programme listeners live.

The National Agricultural Information Officer is based at the Ministry headquarters in Lusaka. Then, there are Provincial Agricultural Information Officers based at each Provincial capital and District Agricultural Information Officers based at each District.

The role of the Agricultural Information Officers is to record the group discussion sessions and play them back on national radio in Lusaka. These project staff are civil servants employed by the government of Zambia and are governed by the general orders of the civil service.

Although the National Agricultural Information Services Department of the MAFF produces the programme, on the ground Agricultural Extension Officers (now known as Camp Officers) from the Field Services Department administer it. The survey further revealed that these Agricultural Extension Officers have been giving a lot of support to the small-scale rural farmers by clarifying and demonstrating some of the farming practices taught on the Radio Farm Forum. The Agricultural Extension Officers also send reports, on behalf of the farmers, to the producers of the programme in Lusaka.

5.8.1 Staff qualifications

Following the restructuring of the civil service, all Agricultural Information Officers must hold a Diploma in Journalism. Most of the serving Agricultural Information Officers only have a Certificate in General Agriculture and attendance certificate in journalism. Currently, the country does not have enough people with the qualifications demanded by the new set-up.

The survey showed that 71.7 per cent of the members of staff hold a Certificate in Agriculture and 23.3 per cent hold a Diploma in Agriculture.

5.9 Demand for the Radio Farm Forum

Most of the respondents (91.7 per cent) said that there is high demand for the Radio Farm Forum from small-scale farmers. Further evidence that the programmes are in high demand is found in a number of press reports. In 1994, the MAFF did not pay the Zambia National Broadcasting Corporation for airtime

Table 9: Staff qualifications

Qualifications	DAIO	PAIO	AEO	Total	Per cent
Certificate in Agriculture	0	12	31	45	71.7
Diploma in Agriculture	3	0	11	14	23.3
Advanced Diploma in Agriculture	0	0	3	3	5.0
Total	3	12	45	62	100

DAIO - District Agricultural Information Officer
PAIO - Provincial Agricultural Information Officer
AEO - Agricultural Extension Officer

Table 10: Demand for the Radio Farm Forum

	Central	Eastern	Southern	Total	Percent
Yes	67	78	75	220	91.7
No	13	2	5	20	8.3
Total	80	80	80	240	100

to broadcast the programmes. As a result, farmers in the Northwestern Province appealed to government to fund the programme. Other press reports have described some of the farmers asking donors and international lending institutions to fund the programme so that it can continue running.

The survey also revealed that Radio Farm Forums are popular, despite difficulties experienced in accessing radio sets and batteries.

6 LESSONS FROM THE ZAMBIAN CASE STUDY

6.1 What has worked well and why

The establishment of a number of radio listening groups all over the country has worked very well for the Radio Farm Forum. This has provided a mechanism for disseminating agricultural information at once to many people in remote rural areas who, due to poor roads, cannot be reached easily. It was enhanced by the traditional practice of nsaka or 'coming together' practised in many parts of the country, as well as by the fact that if any member of the village owned a radio set it was considered as being for the benefit of the whole village.

The radio listening groups have given the farmers a sense of ownership of the programme, and have ensured that they listen to it and ask questions which are eventually answered by technical staff at the Ministry of Agriculture in Lusaka.

The provision for feedback to the farmers has worked well because it has enabled them to get more information on a number of topics.

Another aspect of the programme, which has worked well, is the decision to transmit the same programme in a number of local languages. This is because these languages are easily understood by the majority of the listeners, most of whom are either illiterate or have a very low level of literacy.

6.2 What has not worked well and why

A number of aspects of the Radio Farm Forum have not worked very well. These include:

- sustaining the Radio Farm Forum groups. It has not been possible to sustain the groups because of departure in government policy from provision of free radio sets, batteries and stationery. Now farmers have to buy their own. In addition, the small budget for farmers to run their centres – for example, to construct shelters for meeting places and provide bicycles for the chairpersons – is no longer available. They are struggling to adapt to the changed environment
- follow-up on the implementation of the information disseminated on radio. It has not been possible to assess the implementation success of radio messages in areas where there is no regular extension worker
- poor reception in some parts of the country. Radio reception is still poor in most remote areas of Zambia because of the low-wave output from the ZNBC transmitters. Regional broadcasting stations, which were previously considered as the solution to the problem of poor reception, have not been established because of lack of funds.

6.3 Achievements

The Radio Farm Forum programme has achieved the dissemination of agricultural information to many small-scale farmers in remote rural areas who cannot be reached by any other means. The farmers themselves have expressed satisfaction with the system as a means of information dissemination despite the drawbacks identified in this study.

The programme has also achieved the introduction of free-play radio sets to replace battery-powered sets (which have become very expensive). Another achievement is the successful awareness campaign to educate the farmers on the need for self-reliance in running the affairs of their Radio Farm Forum groups.

A number of factors have contributed to the success of the Radio Farm Forum programme:

- the farmers' awareness of their roles in the Radio Farm Forum
- support from the Ministry of Agriculture by paying for air time on ZNBC radio and by facilitating the efforts of the Agricultural Information Services in recording, producing and transmitting the radio programmes
- the introduction of free-play radio sets, which do not use batteries, has enabled the farmers to dispense with batteries which were either not available in their locality or, when available, were very expensive.

7 CONCLUSION AND RECOMMENDATIONS

The Radio Farm Forum has fitted well into the process of providing two-way communication between the farmers and the government through the Ministry of Agriculture, Food and Fisheries. Through the programme, farmers have become receptive to new ideas. This is useful for their acceptance of new ideas in other areas of development. The success of the programme, as reflected in the survey, suggests that the producers are constantly in touch with the farming communities despite some of the operational and administrative problems highlighted in the report.

For any similar projects to be set up in future we recommend the following.

- Timing should accommodate women's workload, since more and more women are becoming members and leaders of the Radio Farm Forum groups.
- Sufficient funding should be provided so that the programme can continue running and serving the farmers more efficiently and more effectively.
- There should be a mechanism through which the farmers can access agricultural inputs on time to enable them to practise what they have learnt through the Radio Farm Forum programme.
- There should be a close link between Agricultural Information Officers and Agricultural Extension Officers to maximise the use of their skills to the benefit of the farmers.
- Members should be provided with seasonal loans and early delivery of inputs.
- There should be an effective crop marketing system for the rural small-scale farmers who are currently being heavily exploited by urban business people.
- Radio Farm Forum members should be given the opportunity to attend some seminars and should be taken on tours to other Districts, other Provinces and even other countries to see how other farmers are faring.
- The Ministry in charge of the Radio Farm Forum should have sufficient back-up agricultural booklets, calendars and programme schedules containing useful information for the farmers.
- There should be a formal link between the Department or Section involved in the practical implementation of the programme and the Department or Section producing the programme to enhance co-ordination.

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Chapter 7

CONCLUSION

Richard Siaciwena

The main purpose of the study was to provide a detailed record of different distance learning approaches applied in non-formal education, and to present a set of conclusions about their effectiveness, cost, limitations and potential.

The study set out to examine the experiences of a range of distance non-formal education programmes in different geographical and socio-economic contexts in Africa. The five case studies also represented different fields of activity and curricula and, to a certain extent, different delivery methods. This was to ensure that comprehensive data were collected to allow for comparisons between programmes and for the identification of different factors that conditioned the performance of various distance non-formal education programmes.

This chapter highlights the main aspects of the case studies and outlines common problems identified in the case studies, conditions contributing to success and lessons learned in different settings. It draws heavily on Dodds' (1999) article.

The Ghanaian case study focuses on the use of radio to support functional literacy in the Volta region (effective coverage of 200 km radius) and Northern Region (effective coverage of 95 km radius). Radio programmes were expected to provide:

- information that would help change the lifestyle of learners
- complementary support for themes taught in the primers
- a forum for learners to discuss issues with each other
- a medium through which learners could practise their literacy skills
- news and information for learners and the general public.

The use of radio strengthened the coverage, by the literacy programme, of the functional and development themes. It changed, among other things, people's attitudes towards family planning and contributed to the establishment of income-generating ventures. However, the programme experienced a number of problems including poor radio infrastructure and inadequate air time to offer literacy in 15 languages.

The African Medical Research Foundation (AMREF) is a health worker and paramedic training programme which was first set up in Kenya in the 1960s. It targets a wide range of health workers, including fully qualified doctors, midwives and community health workers often with minimal training. It offers a wide range of courses and uses correspondence courses and radio programmes. The target audience and methods of provision of the Distance Education Programme of the Ugandan Ministry of Health are similar to the Kenyan AMREF programme. Large numbers of health workers have participated in the Kenyan and Ugandan programmes (8,000 over the years in the AMREF project and 6,000 in the Distance Education Programme in Uganda). One of the major achievements in both programmes is the reported gain in knowledge among health workers and changes in attitudes and practices.

Problems experienced in the two programmes include few face-to-face sessions due to financial constraints, and lack of formal recognition of certificates obtained at the end of the courses.

The Tanzanian INADES-Formation targets farmers (men and women, regardless of educational background); extension and development workers, or animateurs; social development workers; and development management staff from rural/community and agricultural enterprises. The programme offers a course in Management for Development, in addition to agricultural training. The latter is offered mainly through a correspondence course reinforced by locally-organised face-to-face seminars. Tutors occasionally undertake visits to groups of students. Among the achievements of the programme is the increased income from crops among the peasant farmers and the transformation of some groups (of farmers) into income-generating groups. Problems and constraints include the inadequacy of financial and human resources to provide face-to-face support.

The main objectives of the Zambian Radio Farm Programme are to enable radio listening group members to:

- apply the technical information they receive through the broadcasts in their own farming practices
- identify and describe some of the common crop and animal diseases and pests
- advise other farmers on good farming practices.

The programme helps over 21,000 small-scale farmers/peasants in rural areas, who listen to and participate in the programme, to learn new knowledge and develop new skills. There was evidence of changes resulting from the Radio Farm Form programmes, which included changes in attitudes to slash and burn shifting cultivation and to certain crops, which were previously seen as women's crops. The implementation impact of the programme is, however, limited by poor radio reception in remote parts of the country, and the high cost of transmitting the programme in many languages.

Researchers employed a variety of methods – questionnaires, interviews from group discussions and in some cases physical analysis of course materials – which produced both quantitative and qualitative data. This variety, and the depth of the investigations in each case study, brought out information from which conclusions can be drawn on the performance of distance non-formal education programmes.

1 ORIGIN AND PURPOSE OF THE PROGRAMMES

The programmes in the study were developed or adopted as a direct response to the problems that have characterised the rural development sector in Africa since the 1960s. These include high illiteracy rates, high poverty levels, low agricultural production and poor or inadequate health services. On the whole, the original objectives of the non-formal education programmes have remained valid – principally to serve the learning and development needs of rural adults.

This is despite the fact that some of the programmes developed as part of wider socio-economic development strategies originating from outside of the countries in which they operate. For example, the Radio Farm Forums in Zambia were part of the movement that started in Canada in the late 1930s, was adopted in India in the 1940s and 50s and was later adopted in Africa (Ghana, 1964 and Zambia, 1966). The Kenyan and Ugandan programmes are part of an international non-governmental organisation, the African Medical Research Foundation (AMREF) based in Kenya and operating in East Africa. The INADES-Formation-Tanzania programme is part of the movement that started in the early 1960s in francophone Africa, while the Ghanaian literacy programme builds on early efforts in that country, some of which were part of the global literacy programmes spear-headed by international non-governmental organisations such as UNESCO.

The fact that most of the programmes have been in existence for a long time suggests, among other things, that their objectives and content are still relevant to the needs of the target populations. They are long-term programmes as opposed to short-term projects and have survived for as long as 30 years in some countries (for example INADES, from which the Tanzania project is derived, and the Zambian farm forum).

2 CURRICULA

In general, the main aspect of the curricula in the case studies is that they are designed to uplift the standards of living of the rural people by providing them with opportunities to acquire basic literacy and numeracy skills and improved health and agricultural practices.

Therefore, the curricula in all the programmes appear to be directly related to the socio-economic activities and needs of the communities they were established to serve. In all the case studies, the curricula deal with subject matter of immediate practical life-related topics.

However, curricula vary in terms of design, structure and flexibility, which probably shows the influence of the contextual factors as well as the objectives and target audiences of specific programmes.

3 TARGET AUDIENCE

The study confirms that distance education non-formal programmes in Africa cater to the needs of different target groups, but mainly the poor and vulnerable rural communities. In the literacy and agricultural education programmes, the target population are mainly rural men and women with little or no prior formal education who need basic literacy and agricultural skills to live a more productive life.

The health education programmes in Kenya and Uganda present a different picture in that the official target audience is the whole range of health workers in the respective countries (from fully-qualified medical doctors to midwives and community health field workers often with a minimum of training). However, in practice, the main body of participants is drawn from the more junior health workers and paramedics such as nursing aides, patient attendants, nurses and public health technicians. This is important in the sense that these are the categories of workers who work in local communities, at grass-roots level, where health problems are more severe. Their past formal educational experience and qualifications also tend to be quite limited and therefore more similar to those of the audiences of the other projects.

The case studies therefore show that distance non-formal education can benefit the rural poor by direct participation in the programmes or by improving the professional competencies of those who serve them such as in the field of health education.

4 MEDIA AND DELIVERY METHODS

Although the programmes in this study were designed or started as multi-media programmes, there were evident changes in the combination and use of media, indicating some operational and financial difficulties. For example, in the Ghanaian Literacy and Functional Skills Programme, the radio series were originally intended to lead the classes to form discussion groups/forums about the functional themes. However, in practice they supported the classes mainly by concentrating on developing functional themes, presenting news and information about the classes and providing a medium for learners to demonstrate and practise their skills.

In the Tanzanian and Ugandan case studies, the increasing numbers of learners, wider and growing geographical coverage and scarcity of financial resources/economic constraints were increasingly making it difficult to provide face-to-face sessions.

The predominance of one medium in many of the case studies (radio in some case studies and correspondence courses in others) tends to weaken the effectiveness of the programme. However, it seems clear from the study that radio not only enhances the implementation impact of programmes but also has great potential for improving the overall effectiveness of programmes. Despite problems of poor reception evident in some countries, it is clear that wider-ranging and wider-reaching radio programmes can provide effective support to correspondence courses and discussion groups such as those in literacy programmes and radio farm forums.

However, the effective use of radio in such cases appears to depend on carefully planned systemisation of radio programmes and forum discussion or literacy lessons in terms of timing, content, and structure of programmes.

One overall conclusion that can be drawn in this area is that the traditional media (correspondence/printed materials and radio) have contributed to the success of the non-formal education programmes in a number of ways.

- They provide wider coverage or reach larger numbers than normal traditional methods would allow. This is evidenced by the large numbers of participants in the health education programmes in Kenya (8,000 enrolled for AMREF courses over the years out of 40,000 health workers) and Uganda (6,000 enrolled in the programme out of 11,000 health workers) and by the Zambian case study in which an estimated 21,000 farmers (mostly peasants) listen and participate in the Radio Farm Forum programme. Over 50,000 learners in the Northern Region of Ghana were able to listen to the Radio Savana functional literacy programme in two years.
- There is evidence of changes in the audiences' knowledge levels, practices, attitudes towards development, modern methods or socially accepted behaviour. For example, in Zambia there was evidence of changes resulting from the Radio Farm Forum programmes, which included changes in attitudes to slash and burn shifting cultivation and to certain crops which were previously seen as women's crops. In Ghana, radio changed, among many things, people's attitudes towards family planning and environmental preservation and contributed to the establishment of income-generating ventures. The Kenyan and Ugandan case studies also report improvement in knowledge and changes in attitudes and practices.
- There is evidence that the methods could be used on an even wider scale at acceptable costs if resources and political will were available. An important example in this area is the Ugandan case study, where costs

suggest that distance learning courses are about two and a half times cheaper than their equivalent in more traditional face-to-face training methods.

However, a lot more is required in terms of organisation, systematic utilisation of media combinations and infrastructural development to ensure that the potential of these media is sufficiently exploited for the benefit of the rural masses.

5 GOVERNANCE

Effective collaboration and partnerships in the delivery of distance non-formal education programmes are evidently an important determinant of success. The use of radio, in particular, requires formal links between the provider/co-ordinator of the non-formal programme and the broadcasting organisation. And it is more useful and effective when roles and responsibilities are clearly defined and mutually agreed. However, the Ghanaian case study shows that collaborative activities are not without problems and limitations.

Secondly, the involvement of government agencies or departments can provide the necessary political support and ensure that a programme operates within, and is supported by, a broader socio-economic policy framework. The survival, for many years, and the appreciable impact of the Radio Farm Forums in Zambia and, to a certain extent, the health education programmes in Kenya and Uganda can be attributed in part to the involvement of government in the governance and delivery of programmes.

Thirdly, the involvement of local communities in programme management and delivery can be crucial in enhancing the impact of a programme. For example, in Zambia there is an interesting mixture between a government-run programme and locally self-regulated community groups.

Although the above do not provide a model for governing/managing distance non-formal education systems, they suggest the need for collaboration, especially in the use of radio, and for community involvement in the delivery of programmes.

6 PROGRAMME IMPACT

The visible impact in all the case studies – particularly in the development of positive attitudes towards participation, especially among women – is an important pre-condition for socio-economic development and for the eradication of poverty and disease. Perhaps more importantly, parents who value education are more likely to encourage and support their children to attend school, an important pre-condition to the achievement of basic education for all. At present, millions of children are excluded from school because of poverty and socio-cultural marginalisation, among other reasons. The literacy and education level of parents are the important predictor of their children's learning achievement.

It is evident from the study that distance non-formal education programmes in Africa reach out to comparatively larger audiences than would be possible if distance learning methods were not applied. It is impossible to draw comparisons between, or general conclusions from, the enrolment figures of the different projects as they are so disparate in their organisation and objectives. However, some of the actual figures of the numbers reached are significant. Out of 40,000 health workers in Kenya, at any one time about 8,000 enrolled for AMREF courses over the years, while in Uganda 6,000 out of 11,000 enrolled and participated in the programme. In Zambia it is estimated that more than 21,000 farmers listen and participate in the Radio Farm Forum programme. Given that the programme has been in existence for more than 30 years, it has reached significant numbers of Zambian small-scale farmers.

It is particularly significant in the Zambian case study that at a time of declining resources for government social services such as extension services, the Radio Farm Forum can reach farmers who would very rarely, if ever, be visited by agricultural extension officers.

In Ghana over 50,000 learners in the Northern Region were able to listen to the Radio Savana Functional Literacy Programme in two years. However, in Tanzania there were signs of declining enrolment figures, with only 651 correspondence course enrolments between 1997 and 1999.

Of particular importance is the comparatively large number of women participants in some programmes, notably in the Volta Region (Ghana) where 70 per cent were women. In Zambia nearly half (48 per cent) of participants/listeners were women.

The study also shows that distance non-formal education offered through various media enables learners to gain useful new knowledge and skills and to change their practices and behaviour. The programmes are, in the majority of the case studies, popular, in high demand and offer relevant content. The impact of the programmes can be summarised as follows.

6.1 Ghana

Radio programmes enabled listeners to gain a deeper understanding of important topics such as intestate succession law, bush fires, breastfeeding and teenage pregnancy. Radio programmes also increased women's awareness of the need to be able to read and write and led to an increase in the enrolment of women in the literacy programme.

In addition, the literacy programme motivated people to start income-generating activities, to deal with problems relating to water and sanitation and to understand and practise family planning. Significantly, the resolution of the ethnic conflicts in the Northern Region, experienced between 1994 and 1996, was credited to the Functional Literacy Programme, especially its radio component that preached peace.

The increase in understanding, appreciating and attention paid to the functional themes is important because these themes are the main justification for investment by the World Bank, and often by other donors and governments, in such projects.

Also, the very significant indication of heightened learning, understanding and implementation of functional themes is an important indicator of success, given the widely acknowledged view that the implementation of functional skills is the most difficult part of functional literacy.

Moreover, the changes in attitude towards the implementation of several of the functional themes attributed to radio are important because it is known from experience that changes of attitude are a prerequisite for effective implementation of social and economic change.

The popularity of the use of radio in the programme was evidenced by, among other things, the fact that communities were prepared to make significant financial and other contributions. The use of facilities of the radio stations by other organisations, particularly in the Northern Region where Radio Savana has entered into partnership arrangements with both governmental and non-governmental organisations in the region to provide education to its listening public, is a further indication of demand for the use of radio to promote non-formal education.

The overall conclusion, therefore, is that the radio support experiment effectively demonstrated the potential of radio to strengthen the literacy and other developmental activities of Department of Non-formal Education as well as of interested NGOs, even though the national literacy programme in Ghana itself failed to incorporate radio on a nationwide scale.

6.2 Kenya and Uganda

Programme participants and their tutors and field supervisors in both countries consistently stated that the courses were highly relevant to the work of rural health workers. They further reported a noticeable improvement in the performance of health workers in terms of knowledge, attitudes and practice.

This was attributed by learners, their tutors and supervisors to the printed courses, which they believed were effective as self-study materials and whose quality they were happy with. In both countries, learners who listened to radio programmes (70 per cent of those who responded in Kenya and 40 per cent in Uganda) were satisfied with programmes and felt that they helped them to study and understand the printed course materials. Significantly, although face-to-face tutorials were very rare in both countries, learners felt they were very effective and supportive when they actually took place. They would have liked more of them.

6.3 Tanzania

Although there were signs of declining enrolments in correspondence courses, there was a generally high level of satisfaction with the level usefulness and relevance of courses. However, there was a considerable amount of criticism of the training methods, with a strong feeling that printed materials themselves were not adequate. There was a demand for much more face-to-face contact and follow-up from the INADES tutorial staff. Despite these limitations, those who responded reported a positive impact from the courses, mainly on a personal level. Gains indicated included being able to lead groups and to conduct meetings, increased income from crops, and recognition as master farmers who now play a training and motivating role in their villages for other farmers. Of great importance also is that some groups have become income-generating groups.

6.4 Zambia

Most of the Radio Farm Forum participants found the programmes relevant because they learnt about real life situations and gained a variety of skills from the programmes without the help of the Agricultural Extension Officer. The new methods of farming gained from the forums are known to have increased their yields. These include pot-holing, contour ridging and crop rotation, control of cattle diseases and the use of cow manure. Other skills were water ponding, use of donkeys as draught animals and the construction of more durable crop storage barns.

The changes in farming practices, which were confirmed by Agricultural Extension Officers, were accompanied by significant changes of attitudes as a result of meeting in forums, listening to the programmes and discussing the suggested changes with farmers and their neighbours. Significant changes were evident in soil conservation and general environmental preservation. But perhaps more interesting is that there were attitude changes towards some crops, which were previously seen as 'women's crops' and are now recognised as highly priced cash crops as well as good for the soil. Equally important is that attitudes towards women's participation in farming and their need to learn new methods have also changed, and that farmers encourage their wives to join them in practising what they learn.

The overall conclusion, therefore, is that farmers who participate in Radio Farm Forums find the combination of radio programmes, supporting printed materials and discussion of the content and its application in their farm groups effective in promoting new knowledge, changing attitudes and persuading them to implement what they have learned and discussed.

The Zambian case study shows that one of the major advantages of the Radio Farm Forum movement is that it encourages farmers to study and learn together with other members of their communities, and this facilitates the common implementation of new practices.

7 COST

Although the full costs of delivering the programmes were in most case studies not available, it seems that the cost of providing them is higher than what most providers can easily afford. The high cost of field work, visits by production and support staff and face-to-face sessions tended to weaken the implementation impact of programmes in all countries under study.

However, on the basis of the large numbers of participants in these programmes and the positive impact recorded, it can be concluded that media-based non-formal education programmes are more cost-effective than traditional face-to-face programmes. Indeed, the costing evidence from Uganda suggests that the courses are about two-and-a-half times cheaper than their equivalent in more traditional face-to-face training methods.

8 COMPLETION RATES

Completion and retention figures cannot be taken as comparable between projects, nor can general conclusions be drawn from them because of differences in programme characteristics, particularly in terms of learner/participant characteristics, content, lengths and demands of courses. Also, there was not much reliable data on completion and retention rates.

Completion and retention rates varied from one programme to another. In Kenya, completion rates were about 43 per cent, with another 41 per cent continuing as active students. In Uganda, only 11 per cent appeared to have completed, though another 17 per cent continued as active students. In the Tanzanian INADES programme, less than four per cent of the 651 students had completed all stages of the course for which they enrolled. Nearly half, or 48 per cent, had dropped out – that is, had failed to complete an assignment sheet in nine months. Significantly, completion rates appear to be somewhat higher internationally than those reported in Tanzania, though enrolments internationally are also dropping.

It appears that one of the main contributing factors to non-completion (in the case of the Kenyan and Ugandan case studies) is the failure of either government to give formal recognition for promotional/career purposes to the certificates awarded to successful completers. Possibly the higher completion rate in Kenya corresponds to an apparently stronger informal recognition of the certificates by health authorities than in Uganda.

The Zambian study does not provide detailed statistics of membership, of the length of time individuals remain members of forums or of the regularity of attendance at forum discussions.

9 PROBLEMS AND CONSTRAINTS

The nature and magnitude of the problems vary from one case study to another. In general, the following problems and constraints can be identified.

9.1 Underdeveloped communication infrastructure

The problem created by the underdeveloped communication infrastructure is exemplified by the Ghanaian and Zambian case studies. In Ghana, the poor radio infrastructure means that a large part of the country is not adequately covered for radio support to literacy. In Zambia, where radio coverage has improved, many remote parts of the country still experience poor reception because of low-wave output from the Zambia National Broadcasting Corporation transmitters.

9.2 Multi-lingualism

In Ghana, with the commitment to offer literacy in 15 Ghanaian languages, it has proved virtually impossible for the Ghana Broadcasting Corporation to provide adequate air time to the Non-Formal Education Department to make a meaningful input into the National Literacy and Functional Skills Programme.

In Zambia, the need to broadcast programmes to Radio Farm Forums in many different languages is inevitably expensive in terms of personnel as well as air time, which now has to be paid for by the provider of the programme, the National Agricultural Information Services.

9.3 Inadequate resources

A shortage of human and financial resources is a major constraint in the effective implementation of programmes.

In the Tanzanian case study, the major problems and constraints to the continuing success of the correspondence courses were lack of personnel to provide face-to-face support for correspondence students, isolation of those students and therefore their limited community impact, and lack of other media combinations to reinforce the printed courses. These constraints have led INADES to change its approach, which in turn has lessened the emphasis on, the resources available for, and therefore the impact of the correspondence course programme.

In Zambia, there are declining government resources for the Radio Farm Forum programme as there are for agricultural extension generally. There are no radios available for distribution to the forums, no money for batteries and some evidence that there is less available for supporting printed materials. This is, however, partly offset by the encouraging evidence of some NGO support for the forums and of a growing movement of self-help forums, which are organisationally self-sufficient. More worrying as a sign of declining government support is the evidence that the programme now has to pay ZNBC for air time at commercial broadcasting rates.

Another problem is the evidence of very limited contacts between the farmers who are forum members and the Agricultural Extension Officers in their localities. It appears that this is mainly a result of lack of resources to travel to visit the forums available to the agricultural extension service rather than a lack of interest in or support for the forums on their part. Such close relations between the forums and other existing farmer support services is an essential component of an expanded effective forum movement.

A final problem identified is the change in the qualifications expected of Agricultural Information Officers, which threatens the careers of the officers who have, to date, produced the programmes and of the regional officers who have fed in regional news and recordings. Without such people and the experience they have accumulated it will be difficult to maintain the programmes.

In the Kenyan and Ugandan case studies, there was a general feeling among learners that the face-to-face tutorial component is much too infrequent and irregular. Many suggested that this infrequency is a major cause of non-completion. This situation inevitably appears to be worsening with growing financial constraints.

Some concern was expressed that the courses are targeted at too wide an audience in terms of the academic and professional training background of the learners. This means that the achievement of learning for some completers cannot be guaranteed as their capacity to understand and implement certain health-care measures is dependant on prior knowledge which, in these cases, is not there. It was suggested by those that expressed this fear, and they were mainly more senior medical practitioners, that the courses should be more specifically targeted and that there should be more of them more clearly graded in terms of difficulty and of pre-requisite training.

The most serious problem and constraint, however, particularly in Uganda, is the low completion rate of enrolled learners. In Uganda this was very strongly attributed to the failure of the Ministry to give career recognition to the certificates awarded on completion, in spite of widespread recognition both of the relevance and effectiveness of the courses.

10 SUSTAINABILITY

The case studies provide not only lessons on the performance of distance non-formal education programmes in different socio-economic environments but also lessons on sustainability.

10.1 Ghana

The story of the use of radio for functional literacy in the 1990s in Ghana is a patchy history. There have been two separate attempts to incorporate radio; on both occasions it has been shown to be technically feasible and has shown evidence of considerable potential contribution to the success of the functional literacy campaigns themselves.

Administrative and organisational problems, however, have led to the failures to make the attempts sustainable. The tools are there (though not everywhere); the will to use them widely is not. The likelihood of the national radio system spreading radio coverage for functional literacy nationwide in the foreseeable future is low. The only likely option for NFED is to forge agreements with the growing number of private and community FM radio stations as they come into being. Pressure to charge commercial rates for air time to bodies like NFED will make this difficult.

10.2 Tanzania

This study shows clearly that INADES in Tanzania is moving away from the method of farmer education for which it was previously best known. Its reasons are clear and wholly acceptable. Individual learning by very limited numbers of farmers in any community is a very slow, and probably not very effective, way of bringing about social and economic change in whole communities. The original combination of methods, however, especially when reinforced with other media, as appears to have happened effectively in Cameroon, seems to have had the potential to be successful and to have achieved significant success at earlier stages.

The question is whether the more recent isolation of the correspondence students and of the method itself justifies its abandonment altogether, or whether the new policy orientation can find ways to utilise the old methods in new or renewed combinations to strengthen and extend the organisation's coverage beyond what it can achieve predominantly through intensive face-to-face methods.

10.3 Zambia

The Zambian case study shows that the Radio Farm Forum programme has been successfully sustained for a very significant period of time. It has proved its potential to reach large numbers of farmers in remote rural areas and to help them to learn new knowledge, develop new skills and change both their attitudes and practices in favour of more effective farming techniques.

It could, given political support and the necessary, quite modest, resources, be used on a much larger scale. It is, however, threatened by changing political perceptions about the financing of such adult education and about the broadcasting infrastructure on which it depends. Without adequate personnel and financial resources, at least at the level at which they have been available for the last 30 years, the programme cannot survive. Farmers in Zambia will be much worse off without it.

10.4 Kenya and Uganda

Once again, from the two studies in Kenya and Uganda it appears that the methods can be made to work effectively as training methods. The courses are relevant; learners feel they gain new knowledge, skills and improved attitudes; both they and their supervisors believe they become more effective health workers as a result of the training. Moreover, the demand for the courses and their availability means they have been able to reach very significant proportions of their main target audiences in the two countries. Finally the costing evidence from Uganda suggests they are about two and a half times cheaper than their equivalent by more traditional face-to-face training methods.

The sustainability of the two programmes, however, is threatened by two main factors:

- the failure to give the courses, and the certificates which are given on completion, adequate career recognition in government health service
- the fact that, after many years of operation, they are both still largely dependant on external funding. Such funding, especially for long-term programmes, is becoming increasingly scarce.

11 FACTORS CONTRIBUTING TO SUCCESS

From the case studies, the following factors appear to contribute to the success of non-formal distance education programmes (and their absence decreases the likelihood of success).

11.1 Factors related to media and methods

One outstanding feature of non-formal education is the predominance of the use of radio. In the more successful projects, where there is evidence of significant changes in knowledge, attitudes and practices among the learners as a result of the project, the use of radio is combined with other media such a print and study groups or discussion forums. This is probably because radio remains by far the most accessible medium to the main target audiences of such programmes.

From the providers' point of view, radio remains comparatively cheap to produce and distribute (though note the exception of Ghana, where the radio infrastructure has been noticeably poor). Radio also crosses the literacy barrier: the still huge numbers of illiterate adults in Africa can and do learn directly from the radio. The audience of the Zambian Radio Farm Forums saw radio as their only means of receiving regular farming education and information.

The case studies presented in this report show clear evidence that radio is popular with the

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target audiences. They show that it can, especially in combination with group discussion, help the target audiences to change their attitudes to aspects of development which, in turn, can lead to significant changes in practice.

As regards functional literacy (where radio is sadly seriously under-utilised), the Ghana experience shows that radio can make a particularly strong input into increasing understanding of functional or development themes as well as increasing the audience's ability to and likelihood of implementing such themes. Even in the INADES case study, where print dominates, past experience suggests that print combined with radio is more effective than print on its own.

The second major message is that radio, combined with and reinforced by study group meetings or discussion forums supported by simple printed materials, is a very strong combination for the target audiences of adult basic and non-formal education. It is perhaps worth stressing that the combination does not have to be simultaneous. In Ghana it seems clear that the learners usually listened to the radio by themselves at home, not in groups, and discussed what they heard later when they met for their literacy classes.

The third important factor which contributes to the success of such projects, or hinders and lessens the success if absent, is the close and careful integration of the media, both radio and print, with the face-to-face sessions, be they discussion groups or classes. This in itself requires the training of the respective media producers and the class organisers not only in their respective skills but also in how to work together as inter-dependent teams. These teams will often cross traditional institutional boundaries and require joint planning and supervision by leaders from all institutions involved.

Two important cost factors are fighting against the effective use of combined media approaches such as those illustrated in the case studies. The first is growing pressure on broadcasting bodies to commercialise their air time and to charge educational institutions for using it. This results in a growing reluctance to subsidise the use of radio for adult education purposes. The second is the fact that the combination with organised face-to-face meetings, whether forums or classes, adds significantly to the cost of the programme as a whole. It is therefore dropped or cut back as the first stage of economising on the provision of such services.

One final media factor arising from this study and from the study by Dodds (1996) is that there is very little evidence that the more modern information and communication media, the computer-based media, are available to the intended audiences of adult basic and non-formal education in Africa. Any projects which rely on such technology to diffuse adult basic and non-formal education will, for the immediate future at least, automatically exclude most of their intended target audience.

11.2 Organisational and administrative factors

It is clear that the more successful NFE programmes involve close collaboration between several different agencies, sometimes between different government ministries, sometimes between government and NGOs. The case studies show good examples of collaboration – for instance, between the Zambian National Broadcasting Corporation and the National Agricultural Information Services; and between local NGOs and the Ministry of Agriculture, Food and Fisheries. Bad examples include Ghana, where a major constraint has been the failure of GBC and NFED to establish effective long-term working relations for the national functional literacy campaigns.

In the AMREF case study, excellent working relations have applied in terms of implementation of the programme both between AMREF and the Kenya government and, in its establishment, between AMREF and the Uganda government. However, a major constraint, especially in Uganda, has been the failure to give government recognition for career purposes to the certificates awarded for successful completion of the courses.

It has to be concluded that a major factor making for success and sustainability for such programmes is effective and continuing working relationships and administrative structures, through which professionals from different agencies can work together as a team in spite of institutional divides. Similarly, such programmes require proper co-ordination between the centre and the local offices of the national agencies, and between them and the local groups, which are often voluntary. Where such relationship structures do not exist or are ineffective, the programme either fragments or is much less effective than where such structures are in place.

Finally, a contributing factor to organisational and managerial success is staff development possibilities and clear career lines for staff involved. Again, the inter-institutional nature of such programmes makes such staff development plans difficult to design and implement.

11.3 The political will factor

From all the studies of experience in non-formal education, whether using open and distance learning media or not, it is becoming increasingly clear, at least to the author, that the major factor making for success, for sustainability or for failure or marginalisation is political will.

In Ghana, as indicated in the Ghana case study, when the Head of State announced in his New Year address to the nation at the beginning of 1990 that the National Literacy Campaign had to be launched, before the pilot projects had been implemented, small-scale programmes became national programmes overnight. Though this caused initial administrative chaos, it meant that many adults became literate earlier than they would have done otherwise. It also meant that the World Bank was persuaded to make a significant loan to a national literacy campaign, which would almost certainly not otherwise have been made available. Out of that loan, and almost certainly impossible without the expressed political will to make it happen, the two radio stations were renovated with non-formal education at the top of their agenda.

Without such overt expressions of political will, it is almost impossible to persuade education officials from the formal sector to give adult basic education and non-formal education the status they need to attract resources and recognition. The political will, however, must be sustained and must be applied to details such as recognition of non-formal training for career purposes and for educational equivalency progression purposes.

12 CONCLUSION

This report has examined in some depth five case studies with a view to identifying common problems, factors contributing to success and lessons learned in different settings. One important conclusion that can be drawn is that distance non-formal education programmes have a great potential to deal with problems of poverty, illiteracy, low agricultural production and poor and inadequate health services in rural communities of African countries. Secondly, the case studies demonstrate that distance learning approaches have the potential to enhance the contribution of non-formal education to socio-economic development in Africa.

12.1 Potential

As shown in section 6 of this chapter, distance learning approaches in non-formal education programmes can:

- reach larger numbers of learners/participants over wider geographical areas than traditional methods would allow
- deal with the problem of shortage of qualified field workers in agriculture, literacy, community development and health
- allow people with little or no formal education to participate actively and productively in non-formal education programmes
- encourage people not only to participate in non-formal education activities but also to make contributions towards the financing and management of the programmes
- be effective in improving knowledge and skills levels of the audiences/ participants, in changing peoples' attitudes/behaviour and in motivating rural communities to undertake action leading to the improvement of their socio-economic conditions
- increase personal and community/group income through the establishment of income generating ventures
- provide non-formal education more cost-effectively than traditional methods.

12.2 Challenges

Despite the potential and actual success recorded in the case studies (see sections 4 and 6 of this chapter), the programmes experience a number of problems and constraints.

One major problem relates to an under-developed communication infrastructure. For example, the poor radio infrastructure in Ghana leaves a large part of the country inadequately covered for radio support to literacy, while in Zambia remote rural areas still experience poor radio reception. Secondly, there is inadequate air time to transmit radio programmes in many languages. Here again the Ghanaian and Zambian case studies are good examples.

The shortage of human and financial resources affects the operations of all the programmes reviewed and tends to limit their implementation impact. The lack of personnel and financial resources to provide face-to-face support particularly affected the Tanzanian, Kenyan and Ugandan programmes.

Insufficient financial resources generally affected the Ghanaian and Zambian programmes. The shortage of qualified staff to produce and deliver programmes and provide professional support to groups is also evidenced by the Ghanaian and Zambian case studies

12.3 Lessons

From the achievements and problems recorded by the case studies (see sections 4 to 6 of this chapter) a number of lessons can be derived regarding distance non-formal education in Africa. Some of these lessons are as follows.

The Kenyan and Ugandan case studies show the need to develop courses and their accreditation in partnership with relevant governments or other employers from the start to ensure recognition. Related to this is the need for effective collaboration and partnerships and clear organisational structures in the delivery of distance non-formal education programmes.

It is also important to locate such programmes within broader national socio-economic policy frameworks and to involve, where possible, government agencies and local communities in the running of programmes

All the case studies demonstrate that when the curriculum is directly relevant to the target audience's everyday life and to their socio-economic activities, active participation is encouraged. For example, in the Kenyan and Ugandan case studies various categories of health workers participated in the programmes because they found the courses relevant and useful to their work, even though the certificates were not formally recognised by the Ministries of Health.

In addition, a relevant curriculum promotes a sense of ownership. This is evidenced by the contributions in money and in kind in the Ghanaian literacy programme. It can also encourage direct application of knowledge and skills, as in the Zambian case study where the Radio Farm Forum programme encourages and facilitates common implementation of new farming methods.

The difficulty experienced by researchers in obtaining information on participation/retention and completion rates suggests the importance of efficient management information systems (MIS) in non-formal education programmes. The case studies did not demonstrate any existence of comprehensive MIS, an essential tool for monitoring the performance of the programmes and for providing periodic data to make necessary management decisions.

Traditional media, particularly printed materials and radio, are still relevant and can be effective in improving the implementation impact of non-formal education programmes. However, they seem to work more effectively when they are used in combination. The Kenyan and Ugandan case studies show that printed materials can be more effective when supported by radio lessons and face-to-face sessions.

Similarly, radio programmes can provide effective support to printed materials and discussion groups such as those in literacy programmes (for example, Ghana) and Radio Farm Forums (for example, Zambia). However, carefully planned systemisation of radio programmes and forum discussion or literacy lessons is necessary in terms of timing, content and structure of programmes.

Where the effective use of radio is constrained – on account of infrastructure, language or unsuitable listening times (as in the Ghanaian and Zambian case studies) – audio cassettes can be an effective substitute. Audio cassettes have a number of advantages, one of the most important ones being the freedom from the serious constraints of broadcasting schedules. However, the availability of audio cassette players is still lower than that of radio receivers. There may therefore be increased distribution costs associated with their use for these purposes.

Another way of dealing with the problems of radio broadcasting shown in the Ghanaian and Zambian case studies may be the establishment of local community radio stations, a possibility illustrated by the Ghanaian case study.

The case studies also provide an important lesson in terms of the cost and sustainability of distance non-formal education programmes. Undoubtedly, the large numbers of participants reached and the positive impact recorded are evidence that distance non-formal education programmes are more cost-effective than traditional face-to-face programmes. The Ugandan case study, in particular, provides cost figures which suggest that media-based courses are two-and-a-half times cheaper than their equivalent in more traditional face-to-face training methods.

However, distance non-formal education programmes are not necessarily cheap per se. The cost of course production and running costs (including field visits by production and support staff, face-to-face sessions and transmissions) can be higher than what most providers can afford. It is not surprising that most of the programmes reviewed in this study depend heavily on external financial support, without which some would probably collapse. Notwithstanding this, the evidence shown that distance learning would be used on an even wider scale at acceptable costs if resources and political will were available demands the development of policies and strategies for sustaining distance non-formal education programmes.

13 REFERENCES

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